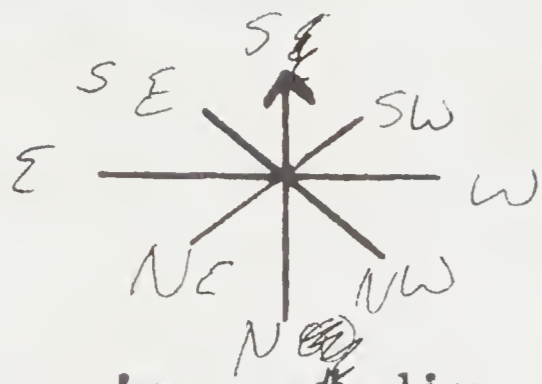


DATE / Dec 64
Pg. #

time species # dir. hgt. remarks loc.

| | | | | | | |
|-----------------|----------------------|--------------|----|--|--|---|
| 1320 | begin observations | | | | | |
| 1325 | gull sp. | 3 | | | | sitting on right hand edge of Pearl Harbor channel large, all light grey-brown - standing on beach possibly all immature Herring Gulls. |
| 1350 | Black-foot A | 1 | | | | |
| 1422 | Pom Jaeger | 3 | S | | | did not follow ship |
| 1445 | Frigate | 1 | SE | | | |
| 1450 | Pom Jaeger | 1 | SE | | | following ship at a distance |
| 1508 | Br. Booby | 1 | NE | | | |
| 1510 | WTTB | 1 | NE | | | Possibly up off of water |
| 1515 | Jaeger sp | 1 | | | | Probably HSS bird) |
| 1524 | Pet. Gr sp | 1 | NW | | | Seen very inadequately by me, Perry says Cook's 1 - thought it too large, too brown myself. Initial glimpse and I thought WT but do not trust "instinct" judgement for self. |
| 1526 | RTTB | 1 | S | | | |
| 1531 | BFA | 1 | | | | following ship. Possessed definitely lighter upper tail coverts but color brown (possibly due to mottling. Not an evident white patch |
| 1545 | Sooty Tern | 20 ± | E | | | Feeding flock - By the time we approached the midst Sooty Terns were very high in the air as was the Tropicbird. Wedgetails were all light phase Boobies appeared to be white-phase and adult but one seen closer to the ship was a mottled SA red foot. The mottling was sparser than is often the case in this age-group (or intermediate phase?) |
| | RFB | 15 ± | | | | |
| | Wedgetail S. | 3-4 | | | | |
| | Cook's Petrel | 1 | | | | |
| | TB sp. | 1 | | | | ultimately a Sooty T.B. Redfoot m. NE |
| 1624 | RFB | 1 | N | | | |
| 1633 | tropicbird sp | 5 | E | | | fairly spread out, presumably WTTB's - several times dives were seen |
| 1634 | Noddy Tern | 1 | NE | | | |
| 1635 | Noddy Tern | 1 | NE | | | |
| 1641 | Noddy Tern | 2 | NE | | | |
| 1648 | Noddy Tern | 3 | NE | | | |
| | Wedgetail | 1 | | | | light |
| 1715 | BFA | 1 | | | | Very prominent white rump patch - under tail coverts white as well. 1726 - still present |
| 1726 | BFA | 2 | | | | |
| 1735 | Pom Jaeger | 1 | | | | - Circling around behind ship to W - 2nd at one time. This bird essentially dark-rumped - could be 15:31 b. d. |
| 1740 | Noddy Tern | 100 ± 25 | | | | actively feeding with medium S by Jack |
| | Wedgetail | 10 ± 2 | | | | |
| | Sooty Tern | 2 | | | | |
| 1755 | end observations | | | | | 1810 Immature Red Foot Booby circled ship several times |



DATE 7 Dec 64
Pg. # 1

time species # dir. hgt. remarks loc.

0630 begin observations

0658 WTTB 1

0845 Frigate 1 NE 100ft adult ♂

0905 Wedgetail 1 N light

1020 Sh. Petrel 1 SW

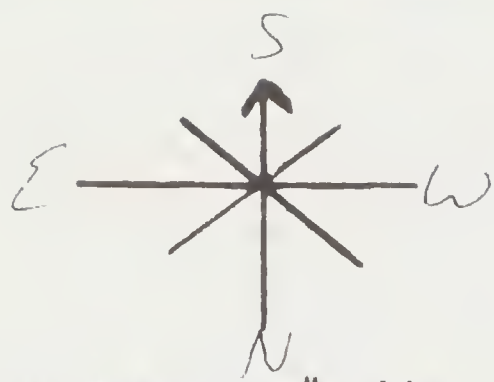
1026 WT 1 N

1310 "~~Horreum's~~ Leach's P 1 ——— vide Terns (day weather)

1431 shear/petrel 1 E

1620 WTTB 1 NW

1800 end observations



DATE 3 Dec 64
Pg. # 1

time species # dir. hgt. remarks loc.

0635 begin observations

0702 Juan Fernandez 1 S

0942 Sooty Tern 25 ± 10
shear/petrel 5 +

1104 WW Petrel 1 S

feeding flock

broad, distinct white nape, underwing white with black border notable between wrist + primary arcs. black-capped effect

1246 J. F. Petrel 1 SW

1345 shear/petrel 1 SW

1510 " " 1 NW

1511 Heaviside's P 1 NW

- flight very erratic and rapid; even faster and more batlike than usual - white-rump -

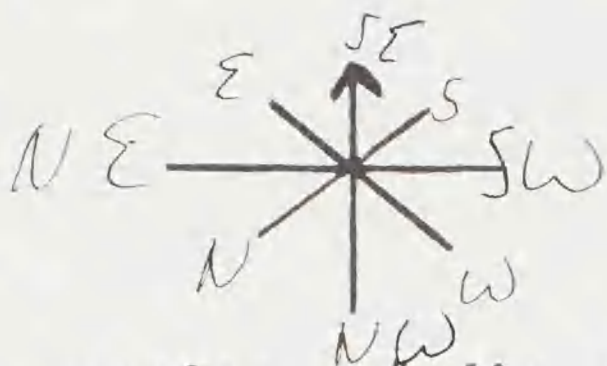
1639 RTTB 1 E

close to ship - flushed

1758 J. F. Petrel 1 S

1803 ————— sunset

1808 — Quit



DATE 4 Dec 64
Pg. # 1

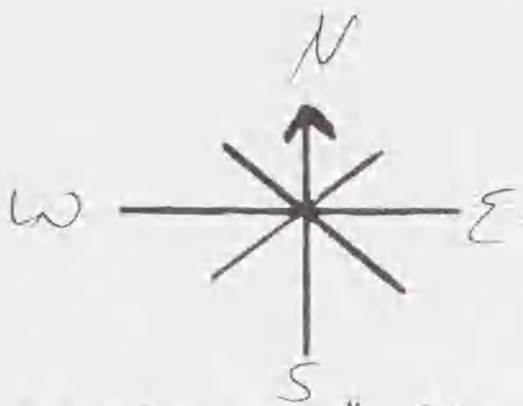
| time | species | # | dir. | hgt. | remarks | loc. |
|-----------|--------------------|--------------|---------------|------|---|------|
| 0400 | Leach's Petrel | 1 | | | Termite reports bird hit ship during hydro station | |
| 0615 | begin observations | | | | but that he couldn't find it on board | |
| 0620+ | Sunrise | | | | | |
| 0706 | Storm-petrel sp | 1 | SE | | All dark, rather far out. Did not see white rump patch but cannot authoritatively say it was not there. | |
| 0820 | Juan Fernandez P. | 1 | | | | |
| | Leach's Petrel | 2 | SE | | | |
| 0827 | Sooty Tern | 1 | SE | | | |
| BWP 0912 | Cook's Petrel | 1 | | | Flying fishes seen on watch MPCPC MPBPC | |
| 0937 | Leach's Petrel | 1 | SE | | | |
| F? { 1038 | Sooty Tern | 12 | E | | Estimated sizes "Small" 5-8" "medium" 7-12" "Large" over 12" Schultz notes that most flying fish take off into the wind. This appears to be the case for most of the individuals seen on this watch (mostly MPBPC) Most of these flights are abortive and short (wind speed 19 knots) but one MPBPC had a relatively long (2-4 sec) flight directly downwind. 10:44 - additional species of flying fish seen (though but poorly) a small fish close to the ship had definitely red-ventures to the pectorals. Several seen. seen by Penny - dark phase | |
| | Cook's Petrel | 2 | NW | | | |
| | | | | | feeding | |
| 1112 | Leach's P. | 1 | | | | |
| 1118 | Kermadec P | 1 | | | | |
| 1142 | Sooty Tern | 1 | NE | | | |
| 1412 | Sooty Tern | 4 | | | | |
| | Newell's S. | 1 | NE | | travelling | |
| 1426 | J.F. Petrel | 1 | SE | | | |
| 1455 | Wedgetail | 1 | SE | | light | |
| BWP 1511 | Cook's Petrel | 1 | S | | | |
| 1522 | Wedgetail | 1 | N | | light | |
| BWP 1558 | Cook's Petrel | 1 | | | seen by Termite | |
| 1606 | Sooty Tern | 1 | | | " " | |
| 1613 | J.F. Petrel | 2 | SE | | | |
| 1623 | RTTB | 1 | | | | |
| 1631 | JFP | 1 | NW | | This makes it tough - Termite says W and he sees birds better than I do. Thought back was gray thought it had light under-tail coverts. No W black border but? | |
| 1645 | Bulwers | 1 | SE | | | |
| 1658 | Sh. petrel | 1 | SE | | | |
| 1705 | Leach's Petrel | 1 | ESE | | | |
| 1709 | Sh. petrel | 1 | | | | |
| 1718 | Leach's Petrel | 1 | SSE | | | |
| 1750 | J.F. Petrel | 1 | E | | 1800 end observations 1805 J.F. Petrel after sunset | |



DATE 5 Dec 64
Pg. # 1

| time | species | # | dir. | hgt. | remarks | loc. |
|------|--------------------|---|------|------|--|------|
| 0610 | begin observations | | | | | |
| 0710 | Jaeger sp | 1 | SE | | strong mottling covering entire body - wing flash evident - no projecting tail feathers smaller than Pomarine J. | |
| 0720 | Red-footed Booby | 1 | ⊙ | | | |
| 0740 | Cook's Petrel | 1 | NW | | | |
| 0748 | Slender-billed S | 1 | S | | | |
| 0900 | JF Petrel | 1 | | | - seen by Termitte | |
| 1207 | JF Petrel | 1 | S | | Flight times - 17-20 knot wind MCC - 6.0, 7.0, 1.0 - no. | |
| 1208 | JF Petrel | 1 | | | | |
| | | | | | 11:47 - Got another good look at medium red-winged P. Wings relatively short + rounded. | |
| | | | | | 12:00 Got a fair look at a MBC - wing black with light line along trailing edge. | |
| | | | | | flight times 20KT winds | |
| 1233 | WT | 1 | E | | MCC 3.0, 1.0, 2.2 on lee | |
| 1245 | Sooty/SB Shear | 1 | S | | 9.0, 11.2, 8.7 on windward | |
| 1255 | Frigate | 2 | ⊙ | 75ft | 3.2, 1.7 on lee | |
| 1320 | Fairy Tern | 1 | NE | | adult ♂ but didn't come quite close enough to tell if F minor or F ariel | |
| 1425 | J.F. Petrel | 1 | SE | | | |
| 1437 | WT | 1 | N | | MCC side of chrt | |
| 1445 | WT | 1 | SE | | ? Lee 5.6 MBC Lee 5 | |
| 1505 | Sl. Pet. | 1 | - | | wind 6.4 | |
| 1531 | Cook Pet | 1 | S | | | |
| 1532 | Sl. Pet (WT) | 1 | - | | BRC (Lee) 14.5 sec. | |
| 1556 | J.F. Petrel | 2 | ⊙ | | | |
| 1604 | Cook's Petrel | 1 | S | | | |
| 1630 | Mottled Petrel? | 1 | S | | | |
| 1633 | J.F. Petrel | 1 | S | | | |
| 1655 | Sooty Tern | 9 | | | feeding with slooped | |
| | J.F. Petrel | 8 | | | | |
| | Frigate | 2 | | | | |
| 1731 | S.F. Petrel | 2 | ⊙ | | | |
| 1740 | J.F. Petrel | 3 | ⊙ | | | |
| 1810 | end observations | | | | | |





DATE 6 Dec 69
Pg. # 1

time species # dir. hgt. remarks loc.

| | | | | | | |
|---------|----------------------------------|---|-----|--|--|--|
| 0610 | begin observations | | | | | |
| 0620-25 | approximate beginning of sunrise | | | | | |
| 0707 | RTTB | 1 | Q | | called once (in apparent alarm) and backpedaled suddenly as it approached the-forward mast. | |
| 0709 | WT | 1 | ESE | | light | |
| 0909 | Cook's Petrel | 1 | N | | | |
| 0917 | Wedgetail | 1 | SE | | light | |
| 0922 | Herald's Petrel | 1 | SE | | medium-sized petrel - brown dorsally, breast & belly white, underwing brown with irregular white centerline very thin, fairly loose wingbeats "white-headed look" | |
| 0936 | Pink-footed S. | 2 | N | | flushed from water - heavy lumbering flight, loose flaps - heavier than Wedgetail flight, bird large & chunky, bigger than Wedgetail, with more robust body & wings the broader at base. upperparts dark brown, underparts like Wedgetail only but not as clear i.e. somewhat smoky white instead of clean white. Grey-brown upper neck coloration extended well down past centerline forming a partial neck band. | |
| 0955 | Fairy Tern | 2 | NE | | | |
| 1232 | RTTB | 1 | NW | | | |
| 1242 | Fairy Tern | 1 | SE | | | |
| 1723 | S.B. Shearwater | 1 | S | | | |
| 1805 | end observations | | | | | |



DATE 7 Dec 64
Pg. # 1

time species # dir. hgt. remarks loc.

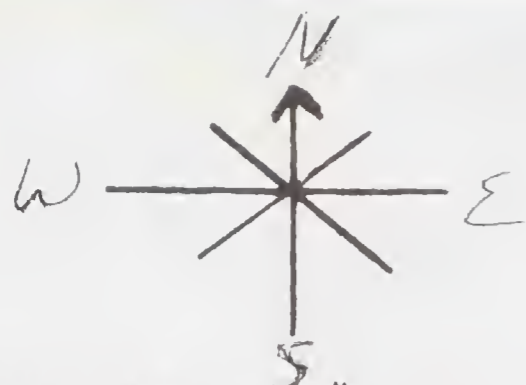
| time | species | # | dir. | hgt. | remarks | loc. |
|------|--------------------|--------|------|------|--|------|
| 0600 | Jaeger sp | 1 | | | seen by Perry | |
| 0615 | sooty/SB Shear | 1 | | | | |
| 0630 | begin observations | | | | | |
| 0600 | frigatebird sp | 1 | | | seen by Tan | |
| 0646 | Shear/petrel | 1 | S | | appeared Mottled P. sized but underparts mostly brown from distance in early sun | |
| 0715 | Fork-tailed Petrel | 1 | | | seen by Perry damnit | |
| 0746 | Slender-billed S | 1 | S | | | |
| 0945 | WTTB | 1 | SE | | | |
| 1104 | Slender-billed S | 1 | S | | | |
| 1216 | Heach's St. Pet. | 1 | | | First observed sitting on the water to the windward of the ship during a hydro station. Despite moderate swell the bird was completely oblivious to wave action and spent the time leisurely preening its feathers. When it took flight some 2-3 minutes later Warren noted that the outer primaries were in molt. | |
| 1248 | Slender BS | 1 | S | | | |
| 1313 | Wedgetail | 1 | SE | | light | |
| 1320 | Leach's P. | 1 | E | | | |
| 1321 | Slender-billed S | 1 | S | | | |
| 1330 | Slender-billed | 1 | S | | | |
| 1335 | Slender-billed | 1 | S | | | |
| 1437 | Heach's P. | 1 | N | | | |
| 1447 | WTTB | 3 | E | | | |
| 1459 | Cook's Petrel | 1 | N | | | |
| 1545 | Wedgetail | 3 | SE | | light | |
| 1600 | Sooty Tern | 30 ± 2 | | | flock feeding on squid - 50 or so 2 inches jumped from water - large (20lb) probably SKY jacked seen. White cap and grey tail of Haw. Noddy seen. dark, close enough to hit with the gun barrel WNP had thicker black underwing borders. | |
| | Fairy Tern | 3 | | | | |
| | Haw. Noddy Tern | 1 | | | | |
| | White-necked P | 1 | | | | |
| | Kermadec P | 1 | | | | |
| | shear/petrel | 2 | | | | |
| 1612 | Herald's P.? | 1 | N | | medium sized petrel, loose flops, dark underwing, white belly - too far away to be sure though | |
| 1625 | Phoenix Petrel | 1 | | | flushed from water close to ship, dark brown upper parts, dark brown upper breast, white belly, under wing brown but not uniform, lighter base there although no white at all. white underwing but SB shape - well seen | |
| 1627 | Slender-billed S? | 1 | SE | | light | |
| 1628 | Wedgetail | 1 | SE | | | |
| 1740 | Sooty Shear | 1 | S | | | |
| 1805 | end observations | | | | | |

365
30
10950

2750
15133000
31
90
84
60

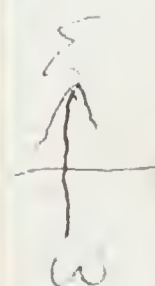
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365
15
1825
165
517.5
137
11547.5
17
21

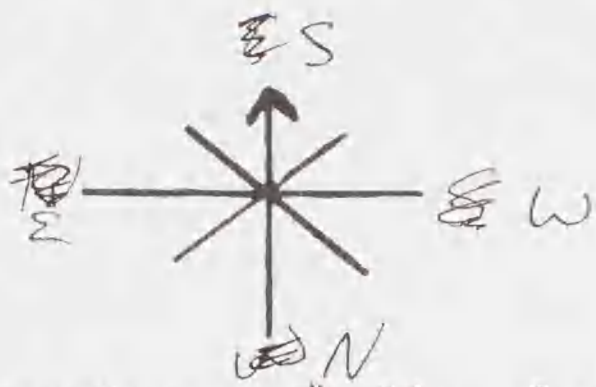
BWP



DATE 8 Dec 64
Pg. # 1

| time | species | # | dir. | hgt. | remarks | loc. |
|-----------------|----------------------------|-----------|------|------|---|-----------------|
| 6:30 | begin observations | | | | | |
| WT | 0640 | 1 | | | Seen well, but odd looking - Grayish above rather than brown, with dusky patch coming down side of throat; no whitish on forehead as in JF types. Black edging to underwings; Flight indisputably WT - (Termite agrees) Wouldn't even question if not for grayish back. Undertail dark. Primary shafts showed lighter above. Rump lighter but no white patch. | |
| BFA | 0640 | 1 | | | | |
| WT | 0652 | 3 | | | | |
| BFA | 0653 | 1 | | | all showing white on primary shafts above. Molt? this time of year. (All WT - light) 2 now following ship. Both BFA essentially dark rump. | |
| BFA | 0657 | 3 (total) | | | 2 sitting down on water to lee of ship - joined by 3rd. Circling and BFA. | |
| WT | 0657 | 2 | | | | |
| 0705 | WT | 4 | N | | Medium large clear winged ff seen. | |
| 0800 | Sooty/slender-billed shear | 1 | SE | | Flying parallel to ship, probably same birds as earlier. | |
| 0815 | Black foot | 4 | | | fairly pronounced silver flash, but several things indicated SRS anyway. Bird came quite close to ship, bird not large enough, wing thin and wrist bent, no reaching of wings, looked browner than SS. | |
| 0820 | wedgetail | 1 | SE | | immatures very young light phase | |
| 0845 | BFA | 5 | | | | |
| 0845 | Wedgetail | 2 | | | | |
| 0847 | Kermadec P | 1 | NE | | | |
| 0849 | Wedgetail | 1 | S | | | |
| | shear/petrel | 1 | S | | | |
| 0852 | BFA | 6 | | | may have been a 2nd Kermadec | |
| 0900 | BFA | 7 | | | 9:30 - 10:00 - BFA: 1-5 | |
| 0920 | Cook's Petrel | 1 | N | | 10:01 - 10:30 - BFA: 1 | |
| 1146 | Slender-billed | 1 | SW | | 10:31 - 11:00 - BFA: 0-1 (1→0) | |
| | | | | | 11 - 11:30 BFA 2 | |
| | | | | | 12:00 | |
| | | | | | One of two seen possessed a white rump. Since the last bird seen with a white rump was seen 30 miles (approx.) back this probably represents a different individual. 2nd bird seen with white rump - Min SDR 2WR | |
| | | | | | 1200-1230 - | |
| | | | | | 1230 - 1300 - 1-1 (3 on water) | |
| 1300 | WT | 3 | N | | | |
| 1337 | WT | 1 | N | | 1300-1430 4 BFA | |
| 1400 | Red-footed B | 2 | (D) | | immatures | |
| 1430 | Wedgetail | 1 | | | light | 1430-1505 4 BFA |
| 1524 | Newell's S | 1 | W | | but water once | 1515-1530 0 BFA |
| 1740 | end observations | | | | | 1730 1 BFA |





DATE 9 Dec 64
Pg. # 1

time species # dir. hgt. remarks loc.

0600 Bleakfoot 1
0640 begin observations

0630 BFA 1
0700 BFA 2 dined on a delicious breakfast
of driftcards, much to the party chief's dismay
BCC emerged on lee, crossed bow +
continued on several hundred yards
0801 - 0830 - BFA - 1
0830 - 0900 - BFA - 1
~~0901 -~~

0817 Sh-petrel 1 NE


0845 WTTB 2

?
The first individual seen (pure white) was seen
circling over the second which was sitting on
the water. This second bird was a salmon-colored
bird (reminiscent of the pink phase of the RTTB)
This presumptive pink WTTB is the first of this
species I have seen with pink plumage. White
tail ^{was} seen on the first bird and black
patches on both birds

30P 1002 Cook's P. 1 S

1045 BFA 1

1054 shear/petrel 1 S

typical grey back but larger with black splotches
underwing 
this one has dark tail, the other had white one

1143 BFA 3

2
Sitting on water to lee of ship
1 in flight

1320 Wedgetail 1 S

1444 Leach's Storm petrel 1

1558 Wedgetail 1 S

1718 Wedgetail 1 S

1720 Leach's P. 1 S

1730 end observations

light

1401 - 14130 BFA - 1

1431 - 1500 BFA - 1

light

1530 - 1630 BFA - 2

light

1620 - 1730 BFA 2

1103 11/10/20

1104 11/10/20

1105 11/10/20



DATE 10 Dec 64
Pg. # 1

| time | species | # | dir. | hgt. | remarks | loc. |
|----------|--------------------|---|------|-------|---|------|
| 0600 | Sooty Tern | 2 | | | Before sunset 2 ST and 2 WT seen | |
| 0610 | WT | | | | <i>ambrose</i> | |
| 0620 | begin observations | | | | | |
| 0743 | RFB | 1 | ♀ | | Relatively young immature - a great deal of brown on the back, Bill dark at tip pink at base; | |
| BWP 0804 | Cooper's Petrel | 1 | | | tail dark brown on back, wings, rump | |
| 0845 | Wedgetail | 1 | S | light | head and neck lighter brown with darker band across chest | |
| 0912 | Bonin Is P.? | 1 | NE | | thick black edges on underwing, darker grey on back, slightly larger than Coors. | |
| 0922 | shear/petrel | 1 | N | | quite large, black + white spotting underparts white patches on upper parts - too far away to tell anything more certain. | |
| P. 0942 | IF/WN Petrel | 1 | S | | seen by Tennite | |
| 0957 | WT | 1 | S | | | |
| 1300 | RTTB | 1 | S | | | |
| 1415 | bird sp | 1 | S | | almost constant flapping, larger + bulkier than tern, stayed very close to water possibly jaeger but too far away to tell for certain | |
| 1450 | Herald's P.? | 1 | S | | | |
| 1631 | Shear/petrel | 2 | S | | way out, didn't fly like wedgetail, upper parts "brown" underparts white - just too far out. | |
| 1735 | end observations | | | | | |

1350
1400
1450



DATE 11 Dec 64
Pg. # 1

time species # dir. hgt. remarks loc.

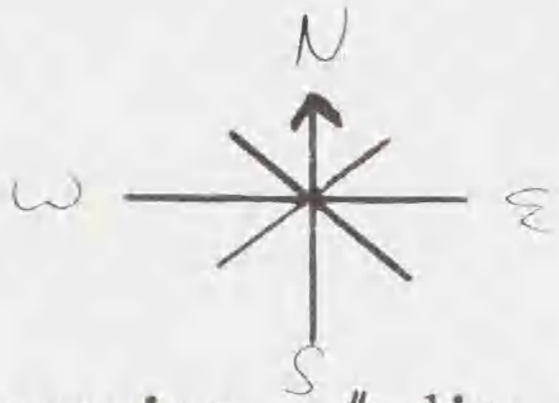
| | | | | | | |
|-----------------|--------------------|--------------|--------------|--------------|---|--|
| 0600 | tropicbird sp | 1 | | | seen by Jan | |
| 0620 | begin observations | | | | | |
| 0740 | WTTB | 1 | ⊙ | | heavy dorsal vermiculations | |
| 0828 | Bird sp. | 1 | | | Came up off the water in the sun; I thought it was a tropicbird but it never went up & I lost it in the waves | |
| 0837 | Cook's Petrel | 1 | N | | | |
| 0935 | shear/petrel | 1 | N | | all dark - underwings lighter brown than back - Wedgetail sized - probably petrel sp. | |
| 1055 | Leach's P. | 2 | S | | one molting outer primaries, both dabbling over water, almost sitting, flying close together | |
| 1227 | Herald's Petrel | 1 | | | ? Dark phase - To me appeared to have white line, somewhat mottled underwing Tips of wings showed lighter due to molt Otherwise all dark ¹⁴⁻¹⁵ 12-14 inches emphasis on 14. fairly loose wing beat, not very hurried, flushed from water. underwing similar to previous Herald's P's. as was flight character and size - didn't bank very steeply seen by George - white underparts, dark upper - wedgetail sized | |
| 1340 | shear/petrel | 1 | N | | | |
| 1443 | Leach's P. | 1 | N | | | |
| 1454 | " " | 1 | S | N | same as above | |
| 1542 | Leach's P | 1 | S | | | |
| 1710 | Leach's P | 1 | S | | | |
| 1730 | Sooty Tern | 200 ± 50 | | | | |
| | Wedgetail | 2+ | | | | |
| | White-necked | 2+ | | | | |
| | Juan Fernandez | 1+ | | | | |
| | Leach's Petrel | 1 | | | | |
| 1750 | end observations | | | | large feeding flock - | |



DATE 12 Dec 64
Pg. # 1

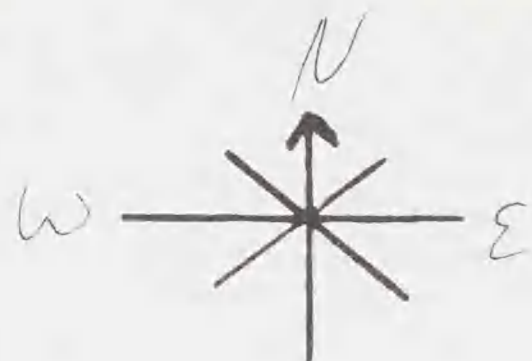
time species # dir. hgt. remarks loc.

| time | species | # | dir. | hgt. | remarks | loc. |
|----------|--------------------|-------|------|------|--|------|
| 0610 | begin observations | | | | | |
| 0644 | Sooty Tern | 1 | NE | | immature | |
| F 0655 | " " | 35-40 | ESE | | Feeding then dispersing ST moving high + to ESE. count of 35 Sooty Tern | |
| | Sh. Petrel | 1 | | | | |
| 0700 | WT | 1 | E | | | |
| 0707 | Sh. Petrel | 1 | SE | | Glimpsed only grey above, white below - JF? | |
| 0725 | Brd sp | 1 | S | | Seen by Perry during weather | |
| 0740 | WNP | 1 | EN | | | |
| 0802 | JF Petrel | 1 | ESE | | | |
| 0843 | JF Petrel | 1 | | | | |
| 0859 | Wedgetail | 1 | E | | | |
| 0905 | Sooty Tern | 25+ | | | feeding flock | |
| | J.F. Petrel | 10+ | | | | |
| | Wedgetail | 1+ | | | | |
| 0915 | JF Petrel | 2 | SW | | | |
| 1055 | Shear-Pet | 1 | NE | | at limits of vision | |
| 1057 | JF Petrel | 1 | NE | | | |
| BWP 1058 | Cook's P | 1 | SSE | | | |
| 1059 | Leach's P | 1 | SE | | | |
| 1114 | shear/petrel | 1 | | | glimpsed | |
| 1120 | shear/petrel | 1 | | | seen by Asari | |
| BWP 1150 | Cook's P. | 1 | | | Feeding down on water on something bloody | |
| 1231 | J.F. Petrel | 1 | S | | | |
| 1357 | Leach's P | 1 | S | | | |
| ESE 1330 | bird sp | 1 | | | seen by crew - large, all brown bird, booby sized but not booby - gull sp? | |
| ESE 1435 | J.F. Petrel | 1 | W | | sat on water once to fish | |
| 1448 | Leach's P | 1 | EW | | | |
| 1502 | J.F. Petrel | 1 | S | | | |
| 1600 | Shear-Pet | 1 | SE | | | |
| E 1617 | Sooty Tern | 40 | E | | fully | |
| 1620 | Leach's | 1 | SE | | - about 100 porpoise seen - bottle-nosed? | |
| 1642 | Kermadec? | 1 | NW | | dusky brown all over with ventral area not white but more tawnyish. Perry says there was a white spot towards tip of under side of bill. I missed it. K? | |
| 1650 | WT | 2 | | | | |
| 1653 | WNP | 1 | N | | | |
| 1655 | St. B. Sh. | 1 | S | | Glimpsed only - then lost in rain - Perry's ident. | |
| 1716 | shear/petrel | 1 | | | glimpsed - may have had dark upper breast & dark under wing | |
| 1745 | Quint | | | | | |



DATE 13 Dec 64
Pg. # 1

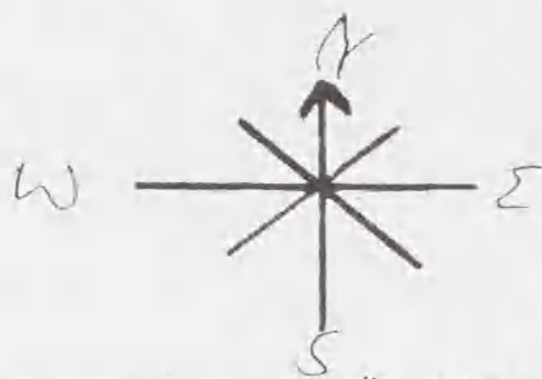
| time | species | # | dir. | hgt. | remarks | loc. |
|----------|--|----|------|------|---|------|
| 0625 | begin observations | | | | | |
| 0710 | shear/petrel J.F. Petrel | 2 | N | | seen by George, probably by J.F. Petrel | |
| 0715 | Leach's P. | 1 | NE | | | |
| 0720 | J.F. Petrel | 1 | E | | | |
| 0740 | J.F. Petrel | 1 | | | seen by George | |
| 0804 | J.F. Petrel | 1 | NW | | | |
| 0825 | Newells | 1 | | | Coming up off water? close to ship - all characters seen well. | |
| 0829 | WT | 1 | NE | | | |
| 0840 | Sh. Petrel | 1 | NW | | Seen poorly small dark above, underparts not seen | |
| 0854 | WT | 2 | SE | | Bulwers? No special credence to tentative ident. | |
| 0906 | St. Petrel | 1 | | | Seen by Penny - says it was all dark | |
| 0929 | JF Petrel | 1 | NW | | | |
| 0934 | JF Petrel | 1 | SE | | | |
| 1005 | Wedgetail | 1 | E | | light | |
| 1007 | J.F. Petrel | 1 | SE | | | |
| 1100 | JF Petrel | 1 | NW | | | |
| 1155 | WN Petrel | 1 | NE | | | |
| 1330 | Leach's Petrel | 2 | NE | | 1 flushed from water | |
| Ref 1422 | JF/WNP | 1 | S | | in sun. | |
| 1432 | WT | 1 | E | | | |
| 1550 | Sooty Terns | 40 | | | feeding flock | |
| | Wedgetail | 25 | | | | |
| | J.F. Petrel | 10 | | | | |
| | shear/petrel | 10 | | | | |
| 1612 | Sooty Tern | 5 | E | | travelling - 4 immatures | |
| | Wedgetail | 1 | E | | missing central retrices | |
| 1615 | Sooty Tern | 1 | E | | adult | |
| 1654 | J.F. Petrel | 1 | SE | | | |
| 1709 | Leach's | 2 | | | sitting on water | |
| 1715 | Sh. Petrel | 1 | | | | |
| 1727 | Wedgetail | 1 | E | | dark above, dark below; underwings not seen | |
| 1745 | end observations | | | | flew rather heavily for slender-bill looked bulkier. * may have been dark phase - light feathering | |



DATE 14 Dec 64
Pg. # 1

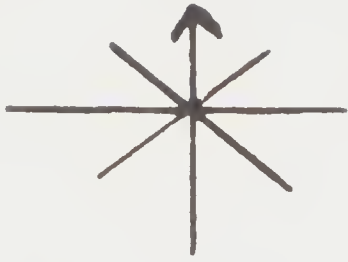
time species # dir. hgt. remarks loc.

| time | species | # | dir. | hgt. | remarks | loc. |
|----------|----------------------|----|-------------|------|---|------|
| | 2 Sooty Tern | 2 | Tropicbirds | | 1 st. petrel before sunrise some WT ₂ (2-3) | |
| 0558 | begin observations | | | | | |
| 0559 | Sooty Tern | 1 | N | | | |
| 0600 | JF Petrel | 2 | N | | } apparently remnants of fl. last 5 birds not seen well but gray above, light below, night flight. Prob either JF as listed on WNP. whether to put down as JF or JF/WNP to Warren's discretion. Not milling as much as I would expect from a Feeding flock. | |
| F 0604 | JF Petrel | 5 | E | | | |
| | JF Petrel | | | | | |
| 0611 | Leach's | 1 | N | | | |
| F 0640 | Sooty Tern | 12 | SB | | } Feeding } There may have been a few more but birds were here + there + it was difficult to get counts. | |
| | JF Petrel | 5 | N | | | |
| | WT | 2 | N | | | |
| 0644 | WT | 1 | N | | sitting on the water. | |
| 0652 | Sooty Tern | 1 | S | | immature | |
| 0658 | JF Petrel | 1 | S | | | |
| 0700 | WT | 1 | S | | | |
| 0702 | JF Petrel | 1 | N | | | |
| 0703 | JF Petrel | 1 | S | | all dark bird but had "feel" of WT. Flight much more WT than SBS. wings looked too broad. An example of "gestalt" identification. | |
| 0706 | JF Petrel | 1 | S | | | |
| | WN Petrel | 1 | S | | | |
| 0709 | JF Petrel | 1 | N | | white neck distinct but not maximal condition. All WT light phase unless otherwise noted. | |
| 0711 | JF Petrel | 2 | N | | | |
| 0714 | Sooty Tern | 5 | E | | | |
| | Sh/Pet. | 4 | | | prob JF - but day 30 ¹ - not feeding | |
| 0738 | Fairy Tern | 1 | NE | | | |
| 0742 | Sh/Pet | 1 | E | | seen during weather | |
| BWP 0750 | Cook Petrel | 1 | N | | | |
| | JF Petrel | 1 | S | | | |
| 0756 | JF Petrel | 1 | N | | | |
| 0759 | ? sh/Petrel | 1 | S | | Bout rocky mull - brown above, white below, underwing apparent mottled white - fast flight with tremendous high arcs - Herald's? mottled? | |
| 0759 | DR? Petrel | 1 | S | | Much like JF but darker almost black above - not seen well | |
| 0801 | JF Petrel | 1 | NW | | | |
| 0805 | J.F. Petrel | 21 | | | | |
| | Wedge tail | 1 | | | dark-northern | |
| | White-neck P | 1 | | | | |
| | Sooty Tern | 12 | | | not actively feeding, but formed ready | |
| | Slender-bill S | 1 | | | | |
| | Shear/petrel | 1 | | | small-medium sized - brown-grey above white below underwing mottled white | |
| 0815 | J. F. Petrel | 3 | | | | |
| 0817 | Shear/petrel | 1 | | | all dark - seen by George | |



DATE 14 Dec 64
Pg. # 2

| time | species | # | dir. | hgt. | remarks | loc. |
|------|--------------------|---|------|------|---|------|
| 0820 | J.F. Petrel | 3 | SE | | | |
| 0825 | Leach's P | 1 | NE | | | |
| 0827 | J.F. Petrel | 2 | W | | | |
| 0830 | Shear/petrel | 1 | SW | | high arc 30ft+ dark brownish-grey back, slightly larger than Cook's, white breast, white underwing with slight mottling, giving a shimmering look to underwing. Flight directional, appeared to be migrating - some birds as at 0805 + 0759 Mottled P? may have been dark underwing - just glimpsed | |
| 0840 | Shear/petrel | 1 | | | | |
| 0841 | J.F. Petrel | 1 | N | | | |
| 0842 | J.F. Petrel | 2 | SE | | flushed | |
| 0844 | J.F. Petrel | 3 | | | | |
| | Wedgetail | 1 | | | light | |
| 0845 | J.F. Petrel | 2 | | | | |
| 0845 | J.F. Petrel | 1 | | | flushed | |
| 0847 | Pale footed S. | 1 | | | big, brown, lumbering, white bill | |
| 0847 | J.F. Petrel | 1 | | | | |
| 0848 | J.F. Petrel | 1 | | | | |
| 0849 | Wedgetail | 1 | NW | | | |
| 0850 | J.F. Petrel | 2 | N | | | |
| 0853 | Sooty Tern | 2 | NE | | | |
| 0854 | Shear/petrel | 1 | | | seen by George | |
| 0907 | J.F. Petrel | 1 | SE | | | |
| 0920 | J.F. Petrel | 1 | S | | | |
| 1018 | WT | 1 | S | | | |
| 1024 | WT | 1 | S | | | |
| 1026 | Sh/Petrel | 1 | W | | far out | |
| 1050 | Loaches | 1 | ? | | - seen by Bobby | |
| 1058 | J.F. Petrel | 1 | N | | | |
| 1228 | J.F. Petrel | 1 | | | very slight grey mantle | |
| 1235 | Harald's P? | 1 | NE | | dark phase, but with white centerline to underwing | |
| | J.F. Petrel | 1 | | | | |
| 1250 | J.F. P. | 1 | S | | | |
| 1304 | Leach's St. Petrel | 1 | | | seen by Pete | |
| 1357 | Shear/pet | 1 | W | | - Same type as 830 but not arc as high - Notly to add to 830 obs. unbut - Too much white on underwing like Kenmudre; too small - I thought as it approached - Here comes a Cook - Mottled P? | |
| 1454 | J.F. Petrel | 1 | N | | | |
| 1525 | Leach's P | 1 | N | | | |



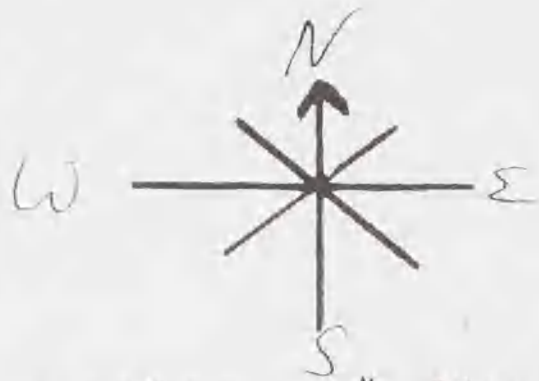
DATE 14 Dec. 64
Pg. # 3

time species # dir. hgt. remarks loc.

1650 JF Petrel 1 NE

1715 RFB 1 N immature

1732 end observations



DATE 15 Dec 69
Pg. # 1

time species # dir. hgt. remarks loc.

0615 begin observations

0636 J. F. Petrel 1 N

0715 J. F. Petrel 1 E

0900 Sh / Pet 1 S

0926 Sl. b. Sh. 1 S

0945 Herald's Petrel 1 N

1113 Leach's 1 NW

1217 Sh / Petrel 1 W

1305 shear/petrel 1 N

1325 shear/petrel 1

1350 J. F. Petrel 2

WN, Petrel 1

1355 shear/petrel 1

1410 J F Petrel 1 NC

1630 shear/petrel 2 NW

1654 J. F. Petrel 1 SW

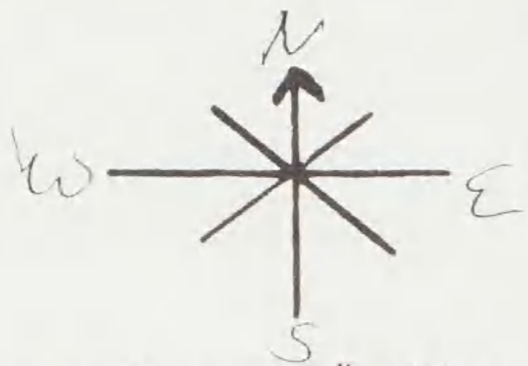
1657 J. F. Petrel 2

1730 — Quat —

- some light under wing - wings appear narrow
Not definitely not Sooty but probably not
some dark in undertail coverts - light phase

— seen very poorly
dark brown upperparts with white flashes in
primaries, underparts white, underwing white
with thick dark edge, wedge tail sized but
didn't feel like a Wedgetail - flew more petrel like
→ seen by George
flushed

first bird flushed from water - brownish grey upperparts
underparts white, underwing light mottled brown,
almost white - probably same as 4 birds seen
yesterday, joined by 2nd bird, also flushed,
but several hundred yards further north
Probably same species but may have been
Herald's P, since underwings looked fairly
dark when bird banded although light was not
too good. Both flew fast ahead of ship and
started to arc fairly high - tail short



DATE 16 Dec 64
Pg. # 1

time species # dir. hgt. remarks loc.

0610 begin observations

0614 J.F. Petrel 1 S

0653 Storm Petrel 2

0720 Leach's 1 E

0723 Leach's 1

0758 J.F. Petrel 1 ~~W~~

0832 Leach's P 1

0940 ~~Shear/Petrel?~~ 1 E

0941 ~~Shear/Petrel?~~ 1 SW

0941 Leach's P 1

1002 Shear/Petrel 1 NW

1215 Tropicbird sp 1

1400 BFA 1

1431 Leach's P 1 NE

1725 QNT

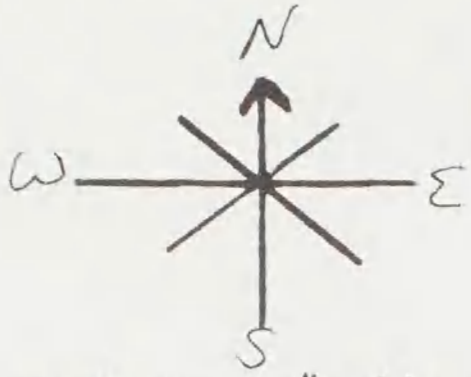
Penny said they did not have white rumps but the birds were at some distance from the ship.

~~Wedgetail~~ + petrel-like all dark - appeared to be migrating, wedgetail sized, lighter underwing high bands, no flaps

dark above light below flight reminiscent of slender-bill not seen well - Does flight direction rule out petrel "y"

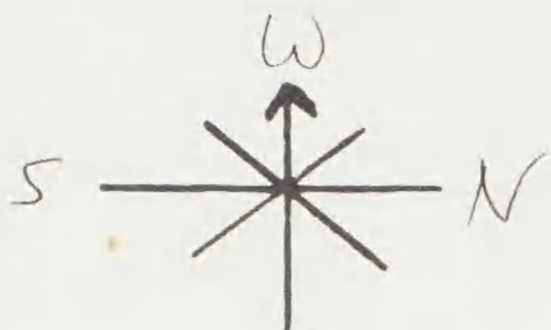
flushed

1500 1 BFA
1600 "
1700 "
1800 "



DATE 17 Dec 64
Pg. # 1

| time | species | # | dir. | hgt. | remarks | loc. |
|------------------------|---------------------|----------------|------|------|---|------|
| 0630 | begin observations | | | | | |
| 0638 | BFA | 1 | | | | |
| 0745 | Leach's P | 1 | | | 0700 ~ BFA | |
| 0810 | Leach's P | 1 | | | 1000 ~ BFA | |
| 1036 | Leach's P | 1 | | | 1100 ~ 3 BFA | |
| 1044 | Leach's P | 1 | | | | |
| 3:50 P 1105 | Cook's P | 1 | | | seen by Perry | |
| 1124 | Leach's P | 1 | NE | | | |
| 1215 | BFA | 1 4 | | | following ship coming from west that passed during hydro | |
| 1328 | Mottled P.? | 1 | NW | | flew very fast, low over water, fast, fairly stiff wing-beats flying very directionally, all grey with white underwing & thick black edges & probably dark patch on belly. ?? saw very briefly but shape was right. | |
| 1335 | Leach's P | 1 | | | | |
| 1605 | Leach's P. | 1 | S | | | |
| 1620 | Leach's P | 2 | S | | | |
| | | | | | 1530 0 BFA | |
| | | | | | 1630 1 BFA | |
| 1720 | <u>Quit</u> | | | | | |



DATE 18 Dec 64
Pg. # 1

time species # dir. hgt. remarks loc.

| time | species | # | dir. | hgt. | remarks | loc. |
|------|----------------------------|---|------|------|---|----------------------------------|
| 0630 | begin observations | | | | | |
| 0630 | BFA | 2 | | | 0630-700 - 2 2 0700-730 - 3 0730-800 - during hydro 6 BFA at least 3 WR. 930-1000 - 3 | |
| 0825 | Leach's P | 1 | S | | | |
| 0908 | Slender-billed | 1 | S | | 1030 - 1 (white rump) 1045 - 2 (dark rump) | |
| 0957 | WT | 1 | E | | light | |
| 1030 | WTTB | 1 | E | | sitting on water. | |
| 1237 | G. Frigate | 1 | | | immature | 1130 - 4 (2 dr, 2 wr) |
| 1340 | JF Petrel | 1 | E | | | 1132 - 6 (2 on water, 4 in air) |
| 1407 | Kermadec P | 1 | | | light seen by Perry | 1200 9 BFA |
| 1415 | Leach's | 1 | W | | | 1210-13 BFA 1220 14 BFA |
| 1440 | Kermadec P | 1 | E | | light | 1245 - 5 BFA |
| 1525 | Slender-billed sooty S. | 1 | S | | seen by Perry | 1315 - 5 1415 - 7 1515 - 9 |
| 1540 | JF Petrel | 1 | E | | | 1540 - 10 |
| 1618 | Leach's | 1 | E | | | 1615 - 5 1630 - 8 |
| 1740 | end observations | | | | | 1700 - 18 1730 - 18 |



DATE 19 Dec 64
Pg. # 1

time species # dir. hgt. remarks loc.

0730 begin observations

0730 BFA 5


0815 TB sp 1 SE

0917 WTTB 1 NE

0918 RFB 1 SE

0947 J.F. Petrel 1 NE

1005 Wedgetail 1 NE

1025 Wedgetail 1  light

1045 Kermadec 3+


Wedgetail 2+

Newell's 1

Bonin IsP? 2

Red Foot B. 1

1050 shear/petrel 1 W

1058 WNPetrel 1 

1059 WTTB 1

1102 storm petrel sp. 1 W

1105 shear/petrel 1 E

1217 WNP 1

1222 WNP 

1230 Wedgetail 1

1240 two BFAs were observed

1245 storm petrel sp. 1 all dark possibly Bulwer's

0800 - BFA - 3
0900 - - 4
0940 - - 0

adult - white phase
white rump but not brood
light

1025 - 4 BFA (2 following ship, 2 sitting)

1035 6 BFA
light

feeding

adult

all over
flushed - very pink, with red tail!
seen quite clearly by Clapp King -
black scapulars + leading primary
edge patches seen clearly
- all dark - no white rump. Might have been
Bulwer's but I doubt it. Flight too weak +
fluttery
might have been jaeger - too far away

going through the entire courtship ritual while
sitting on water - head bobbing, no-saying, bill
in the wing with wings puffed away from body,
trumpeting etc. after courtship much preening
(individual) + splashing in water - a third bird
came by and one came by + started courtship
2 white rumped + 1 dark, vocalizations audible
from ship. Most preening under wing, perhaps
low intensity courtship.



DATE 19 Dec 64
Pg. # 2

time species # dir. hgt. remarks loc.

1250 tern sp 1 (P)

small, size of fairy tern, white below, tail white above - back + upper wings light grey with blacker mottlings around edges.

1300 WTTB 2 circling

forehead white, black cap extending to above nape, relatively large, bill black, tail not very deeply forked, call high ~~peet~~ peet. Clapp says - identical to black naped call. also - it could be black naped immature.

1300 shear/petrel 1

Albatrosses! group swelled to 10 birds - all engaged in preening along back, vocalizations audible, (squeals) from at least 100 yds. rain dampened activities, but when food was tossed over, birds fought for it, one group of 3 fighting over large piece of fat, but in another area there seemed to be a pecking order; when a second bird approached one eating a large lump of fat with a squeal it retreated, and the second bird retreated when a third came squealing. As group increased in size greater preening stimulus was noticed.

1415 Shear/Petrel 1

glimpsed WT?

1418 WT 1

(Same level?) light

1437 shear/Pet. 1

seen by Perry - up out.

1457 WTTB 2

one at least fishing -

2:30 - 3:00 - 2 BFA

1500 WT 1

up out

1506 TB sp. 1

Sitting on water; never took flight
bright red bill

1510 JF Petrel 1

1554 Leach's P. 1

1800 S BFA

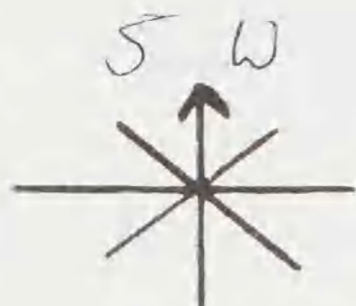
1559 Leach's P. 1

1609 Shear/petrel 1

seen by Tom
adults

1800 and observations

1745 RFB 1



DATE 20 Dec 67
Pg. # 1

time species # dir. hgt. remarks loc.

| | | | | | | |
|-----------------|----------------------|--------------|-----|----------|--|--|
| 0615 | | | | | Shear-petrel - seen by Perry | |
| 645 | begin observations | | | | 0700 - 6 BFA | |
| | | | | | 0750 - 6 BFA | |
| 6645 | BFA | 2 | NE | | | |
| 0704 | RFB | 1 | | | Ad. White Phase | |
| 0719 | RFB | 1 | | | " " " | |
| 0729 | RFB | 1 | | | " " " | |
| 0730 | Sooty Tern | 1 | | | | |
| 0755 | Sooty Tern | 30 | ±5 | | feeding | |
| | RFB | 1 | | | adult | |
| | shear/petrel | 1+ | | | | |
| 0810 | RFB | 1 | NE | | adult | |
| 0830 | RFB | 1 | NE | | 0830 8 BFA | |
| 0835 | RFB | 45 | ±5 | | adult | |
| | Sooty Tern | 50 | ±10 | | 1040 9 BFA | |
| | Frigate | 1 | | | feeding 1010 - 8 BFA | |
| | shear/petrel | 1+ | | | 5 | |
| 0854 | Noddy Tern | 1 | | | 0955 5 BFA | |
| | Pom. Jaeger sp | 1 | | | 0930 3 BFA | |
| 0950 | WT | 2 | | | Too far top get a good look at tern. | |
| 0954 | WT | 2 | | | One of these birds flew up to 2 BFA seabird on the water and alighted temporarily | |
| 1018 | Whimbleds | 2 | | | | |
| 1023 | Pom. Jaeger | 1 | | | | |
| 1025 | BFA | 10 | | | - on water near floating log. One of these individuals had an unusual plumage which was partial. The head, neck and part of the breast were a pale fawn color similar to the color of an immature nuthatch strike as figured by Peterson but tawner. Many of these birds were engaged in under the wing preening which may indicate yesterday's occurred on the function of this in display. No display or agonistic behavior was seen. | |
| 1025 | WT | 1 | | | Flying around albatross on water. | |
| 1103 | Pom. Jaeger sp | 1 | | | | |
| 1104 | Slender-billed | 1 | | | whitish underwing but flew in fast arcs, not very high, wings bowed, wrists bent, too small for S.S. | |
| 1106 | RFB | 1 | | immature | | |
| 1137 | Noddy Tern | 1 | | | | |
| 1140 | Christmas Is | 1 | | ±5 | | |
| 1142 | J. F. Petrel | 1 | | | BFA 1100-1230 | |
| 1155 | S/S | 1 | | | passed in standard, not seen by me. | |
| 1208 | J. F. Petrel | 1 | | | | |
| 1210 | Pom Jaeger | 1 | | | dark breast white belly | |



DATE 20 Dec 64
Pg. # 2

time species # dir. hgt. remarks loc.

| time | species | # | dir. | hgt. | remarks | loc. |
|------|------------------|---|------|------|----------------------------------|------|
| 1218 | P. Jaeger | 2 | | | 1 all dark | |
| 1219 | J.F. Petrel | 1 | | | | |
| 1240 | P. Jaeger | 1 | | | | |
| 1255 | P. Jaeger | 1 | | | | |
| 1300 | P. Jaeger | 2 | | | - one with pronounced white neck | |
| 1302 | P. Jaeger | 1 | | | | |
| 1305 | P. Jaeger | 1 | | | | |
| 1308 | P. Jaeger | 1 | | | | |
| 1326 | G. Frigate | 1 | | | ♂ | |
| 1330 | P. Jaeger | 2 | | | + a imm. | |
| 1330 | end observations | | | | | |

SI-MNH-955b
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART B

DATE 1 Dec 64

Time at sunrise = ¹³⁴⁰ Position at sunrise = $21^{\circ}19'N$ $157^{\circ}58'W$

Time at sunset = ¹⁷⁴⁸ Position at sunset = $20^{\circ}45'N$ $157^{\circ}23'W$

Miles traveled from 0000 hours to sunrise =

Miles traveled from sunrise to sunset = 48

Miles traveled from sunset to 2400 hours = 50

TIME OF FIX TYPE OF FIX LONGITUDE LATITUDE

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

DATE 2 Dec 64

Time at sunrise = ⁰⁶⁴⁵ Position at sunrise = $18^{\circ}54'N$ $156^{\circ}59'W$

Time at sunset = ¹⁷⁵⁴ Position at sunset = $17^{\circ}05'N$ $156^{\circ}57'W$

Miles traveled from 0000 hours to sunrise = 65

Miles traveled from sunrise to sunset = 109

Miles traveled from sunset to 2400 hours = 60

TIME OF FIX TYPE OF FIX LONGITUDE LATITUDE

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

SI-MNH-955b
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS

AT SEA SURVEY CHART B

DATE 3 Dec 64

Time at sunrise = ⁰⁶⁴⁰ Position at sunrise = 15° 04' N 157° 01' W

Time at sunset = ¹⁸⁰⁰ Position at sunset = 13° 04' N 157° 00' W

Miles traveled from 0000 hours to sunrise = 61

Miles traveled from sunrise to sunset = 120

Miles traveled from sunset to 2400 hours = 52

| TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|-------------|-------------|-----------|----------|
|-------------|-------------|-----------|----------|

1.

2.

3.

4.

5.

6.

DATE 4 Dec 64

Time at sunrise = ⁰⁶³² Position at sunrise = 11° 20' N 156° 40' W

Time at sunset = ¹⁷⁵⁵ Position at sunset = 10° 24' N 154° 46' W

Miles traveled from 0000 hours to sunrise = 64

Miles traveled from sunrise to sunset = 110

Miles traveled from sunset to 2400 hours = 51

| TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|-------------|-------------|-----------|----------|
|-------------|-------------|-----------|----------|

1.

2.

3.

4.

5.

6.

SI-MNH-955b
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART B

DATE 5 Dec 64

Time at sunrise = ⁰⁶²² Position at sunrise = 11°08'N 154°00'W

Time at sunset = ¹⁷⁴⁹ Position at sunset = 12°51'N 154°00'W

Miles traveled from 0000 hours to sunrise = 68

Miles traveled from sunrise to sunset = 103

Miles traveled from sunset to 2400 hours = 40

| TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|-------------|-------------|-----------|----------|
|-------------|-------------|-----------|----------|

1.

2.

3.

4.

5.

6.

DATE 6 Dec 64

Time at sunrise = ⁰⁶²⁸ Position at sunrise = 14°29'N 154°01'W

Time at sunset = ¹⁷⁴³ Position at sunset = 16°02'N 153°58'W

Miles traveled from 0000 hours to sunrise = 58

Miles traveled from sunrise to sunset = 93

Miles traveled from sunset to 2400 hours = 63

| TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|-------------|-------------|-----------|----------|
|-------------|-------------|-----------|----------|

1.

2.

3.

4.

5.

6.

SI-MNH-955b
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART B

DATE 7 Dec 64

Time at sunrise = ⁰⁶³⁵ Position at sunrise = 18° 05' N 153° 58' W
Time at sunset = ¹⁷³⁷ Position at sunset = 19° 59' N 153° 58' W
Miles traveled from 0000 hours to sunrise = 60
Miles traveled from sunrise to sunset = 114
Miles traveled from sunset to 2400 hours = 56

| TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|-------------|-------------|-----------|----------|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |

DATE 8 Dec 64

Time at sunrise = ⁰⁶⁴³ Position at sunrise = 22° 04' N 153° 58' W
Time at sunset = ¹⁷²⁸ Position at sunset = 23° 25' N 153° 30' W
Miles traveled from 0000 hours to sunrise = 69
Miles traveled from sunrise to sunset = 108
Miles traveled from sunset to 2400 hours = 70

| TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|-------------|-------------|-----------|----------|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |

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SMITHSONIAN INSTITUTION
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AT SEA SURVEY CHART B

DATE 9 Dec 64

Time at sunrise = ⁰⁶³⁵ Position at sunrise = 28°33'N 151°00'W

Time at sunset = ¹⁷²¹ Position at sunset = 22°00'N 151°01'W

Miles traveled from 0000 hours to sunrise = 73

Miles traveled from sunrise to sunset = 93

Miles traveled from sunset to 2400 hours = 63

| TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|-------------|-------------|-----------|----------|
|-------------|-------------|-----------|----------|

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

DATE 10 Dec 64

Time at sunrise = ⁰⁶²⁸ Position at sunrise = 19°56'N 151°07'W

Time at sunset = ¹⁷²⁹ Position at sunset = 18°03'N 150°58'W

Miles traveled from 0000 hours to sunrise = 61

Miles traveled from sunrise to sunset = 113

Miles traveled from sunset to 2400 hours = 42

| TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|-------------|-------------|-----------|----------|
|-------------|-------------|-----------|----------|

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

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SMITHSONIAN INSTITUTION
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AT SEA SURVEY CHART B

DATE 11 Dec 64

Time at sunrise = 0622 Position at sunrise = 16°04'N 150°59'W

Time at sunset = 1737 Position at sunset = 14°20'N 151°01'W

Miles traveled from 0000 hours to sunrise = 77

Miles traveled from sunrise to sunset = 104

Miles traveled from sunset to 2400 hours = 64

| TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|-------------|-------------|-----------|----------|
|-------------|-------------|-----------|----------|

1.

2.

3.

4.

5.

6.

DATE 12 Dec 64

Time at sunrise = 0616 Position at sunrise = 12°22'N 151°00'W

Time at sunset = 1740 Position at sunset = 11°11'N 150°28'W

Miles traveled from 0000 hours to sunrise = 54

Miles traveled from sunrise to sunset = 89

Miles traveled from sunset to 2400 hours = 59

| TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|-------------|-------------|-----------|----------|
|-------------|-------------|-----------|----------|

1.

2.

3.

4.

5.

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28
100

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART B

DATE 13 Dec 64

Time at sunrise = ⁰⁶⁰⁴ Position at sunrise = 10° 23' N 148° 43' W

Time at sunset = ¹⁷³¹ Position at sunset = 11° 06' N 148° 01' W

Miles traveled from 0000 hours to sunrise = 55

Miles traveled from sunrise to sunset = 110

Miles traveled from sunset to 2400 hours = 57

| | TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|--|-------------|-------------|-----------|----------|
|--|-------------|-------------|-----------|----------|

1.

2.

3.

4.

5.

6.

DATE 14 Dec 64

Time at sunrise = ⁰⁶⁰⁶ Position at sunrise = 13° 02' N 147° 58' W

Time at sunset = ¹⁷²⁴ Position at sunset = 15° 00' N 147° 58' W

Miles traveled from 0000 hours to sunrise = 59

Miles traveled from sunrise to sunset = 118

Miles traveled from sunset to 2400 hours = 60

| | TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|--|-------------|-------------|-----------|----------|
|--|-------------|-------------|-----------|----------|

1.

2.

3.

4.

5.

6.

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SMITHSONIAN INSTITUTION
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AT SEA SURVEY CHART B

DATE 15 Dec 64

Time at sunrise = ⁰⁶¹⁴ Position at sunrise = 17° 15' N 148° 00' W

Time at sunset = ¹⁷¹⁷ Position at sunset = 19° 04' N 147° 56' W

Miles traveled from 0000 hours to sunrise = 75

Miles traveled from sunrise to sunset = 109

Miles traveled from sunset to 2400 hours = 74

| TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|-------------|-------------|-----------|----------|
|-------------|-------------|-----------|----------|

1.

2.

3.

4.

5.

6.

DATE 16 Dec 64

Time at sunrise = ⁰⁶²² Position at sunrise = 21° 15' N 147° 58' W

Time at sunset = ¹⁷⁰⁹ Position at sunset = 23° 17' N 147° 56' W

Miles traveled from 0000 hours to sunrise = 57

Miles traveled from sunrise to sunset = 122

Miles traveled from sunset to 2400 hours = 62

| TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|-------------|-------------|-----------|----------|
|-------------|-------------|-----------|----------|

1.

2.

3.

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5.

6.

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SMITHSONIAN INSTITUTION
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AT SEA SURVEY CHART B

DATE 17 Dec 64

Time at sunrise = 0631 Position at sunrise = 25° 24' N 147° 59' W

Time at sunset = 1707 Position at sunset = 26° 03' N 148° 44' W

Miles traveled from 0000 hours to sunrise = 65

Miles traveled from sunrise to sunset = 110

Miles traveled from sunset to 2400 hours = 76

| TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|-------------|-------------|-----------|----------|
|-------------|-------------|-----------|----------|

1.

2.

3.

4.

5.

6.

DATE 18 Dec 64

Time at sunrise = 0643 Position at sunrise = 25° 04' N 151° 06' W

Time at sunset = 1727 Position at sunset = 24° 59' N 153° 12' W

Miles traveled from 0000 hours to sunrise = 65

Miles traveled from sunrise to sunset = 115

Miles traveled from sunset to 2400 hours = 56

| TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|-------------|-------------|-----------|----------|
|-------------|-------------|-----------|----------|

1.

2.

3.

4.

5.

6.

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART B

DATE 19 Dec 64

Time at sunrise = ⁰⁷⁰³ Position at sunrise = 24°57'N 155°48'W

Time at sunset = ¹⁷⁴³ Position at sunset = 24°12'N 157°00'W

Miles traveled from 0000 hours to sunrise = 85

Miles traveled from sunrise to sunset = 107

Miles traveled from sunset to 2400 hours = 59

| | TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|----|-------------|-------------|-----------|----------|
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |

DATE 20 Dec 64

Time at sunrise = ⁰⁷⁰² Position at sunrise = 22°00'N 157°02'W

Time at sunset = ¹³³⁰ Position at sunset = 21°19'N 157°49'W

Miles traveled from 0000 hours to sunrise = 73

Miles traveled from sunrise to sunset = 68

Miles traveled from sunset to 2400 hours =

| | TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|----|-------------|-------------|-----------|----------|
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |

Anderson

December 1964 BCF Townsend Cromwell Cruise

The December 1964 Townsend Cromwell cruise was the tenth of a series of cruises conducted by the U. S. Fish and Wildlife Service's Bureau of Commercial Fisheries covering a fixed grid to the east of the high Hawaiian Islands for the purpose of determining variations in currents and water types of this area.

This is the ninth cruise in which Pacific Project personnel have taken part. Daily sunrise to sunset bird observations were maintained for a total of 210.0 hours. In addition Project personnel aided in recording weather observations and in making bathythermograph casts. Project personnel were Roger Clapp and Warren King.

Warren B. King
Research Assistant
Pacific Project

Black-footed Albatross

A slight increase in numbers was noted in December with 55 seen compared with 40 in November. The southern limit was 22° North in the eastern part of the grid and 21° North in the west around Oahu. On one occasion formal display behavior was noticed between two birds sitting on the water, including all phases of display except bill-clapping. Vocalizations were plainly audible to the observers on shipboard at least 100 yards distant. On 18 December a banded bird was observed sitting near the stem of the ship, but it could not be captured.

Wedge-tailed Shearwater

Numbers decreased 47% from 199 in November to 106 in December. No southern dark-phase birds were observed in the area. This is the first month in which no dark-phase birds were seen. Juvenile birds were seen only on 8 December, just north of Hawaii. As in the past densities were greatest in the vicinity of the high Hawaiian Islands and in the southeastern corner of the area.

Christmas Island Shearwater

One was observed on 20 December for several minutes within 5 miles of Oahu.

Newell's Shearwater

Four birds were seen in December, the same number as in November. Two were seen several hundred miles north of the high Hawaiian Islands,

December 1964 - BCF cruise

3

and the other two were in the southern end of the area. This distribution pattern seems to prevail during the species' non-breeding period.

Sooty Shearwater

One bird thought to be this species was seen 7 December. In addition at least three others were seen which were either this species or Slender-billed Shearwater.

Slender-billed Shearwater

Fifteen birds identified as this species were observed in December, although distinction between this species and the above Sooty Shearwater was seldom sufficiently clear cut to eliminate doubt.

Pink-footed Shearwater

Two birds of this species, the presence of which was recently confirmed in the Central Pacific by a specimen, were flushed from the water by the ship. They were observed clearly enough, and at close enough range, to make misidentification unlikely, but from a distance it would be very easy to confuse this species with light phase Wedge-tailed Shearwaters.

Pale-footed Shearwater

One bird was seen at close range on 14 December, permitting the observer a fine view of its conspicuous white bill.

Kermadec Petrel

Nine were seen in December. Two were dark phase, six were light phase, and one was intermediate. They were distributed in all parts of the area. Three were seen together in one small feeding flock on 19 December.

Herald's Petrel

Six birds presumably of this species were observed, including two dark phase birds, the first to have been seen in the area. They were distributed throughout the central part of the area.

Mottled Petrel

Two birds, seen only imperfectly, were thought to be this species. One was flying south and the second was taking part in a feeding flock.

Phoenix Petrel

One bird presumably of this species was seen on 7 December near Hawaii.

Bonin Island Petrel

Three imperfectly observed birds seen in December were thought to be this species. Two were north of Oahu and the third was east of Hawaii.

Cook's Petrel

Numbers of this species decreased sharply from 268 in November to 19 in December. A slight concentration was noticed in the southern end of the area, but individuals were observed in all parts. This species is most likely heading south for its breeding season and will probably not become abundant again until early summer.

Dark-rumped Petrel

One bird thought to be this species was seen on 14 December toward the southeastern comes of the area, further south than any have previously been reported.

White-necked Petrel

The apparent increase in numbers of this race from four in November to 13 in December might be the result of confusion with fairly white necked Juan Fernandez Petrels, although it is not too likely. A slight concentration was noted in the southeastern corner of the area.

Juan Fernandez Petrel

Numbers of this race dropped 48^o/o from 297 in November to 156 in December. Presumably numbers will decrease still further next month as the birds' breeding season approaches. The southeastern corner of the area had clearly the highest density of these birds. Three were seen within 5 miles of Oahu.

Leach's Petrel

This species decreased 45^o/o from 96 in November to 53 in December. Concentrations were seen in the northeast corner and in the southern end of the area. This species will probably maintain similar numbers in the area throughout the winter. The increased numbers experienced in the fall and spring reflect migration peaks, while the lower winter plateau represents a wintering population in all likelihood.

Fork-tailed Petrel

One bird doubtless of this species was observed on 7 December. This species may be of regular occurrence in the area in winter but due to the extreme difficulty in clear observation of this species few ill ever be recorded.

Red-tailed Tropicbird

This species decreased from 14 in November to a new low of six birds in December, all in the southern and western parts of the area.

White-tailed Tropicbird

This species increased to 17 in December from 9 in November. None were seen south of 16° North, and most were in the general vicinity of the high Hawaiian Islands.

Brown Booby

One bird was seen near the entrance to Pearl Harbor on 1 December.

Red-footed Booby

Five of the 77 Red-footed Boobies observed in December were immature birds seen at a considerable distance from land, as far south as 11° North. Evidently, in winter a small population of immature birds is to be found far out to sea in the area.

Great Frigatebird

Numbers dropped to 9 in December from 22 in November. Four were seen at the southern end of the area and the rest were found in the general area of the high Hawaiian Islands.

Sooty Tern

Numbers of this species remained constant from November to December, 557 to 566. Again, greatest concentrations were found in the vicinity of the high Hawaiian Islands and toward the southeastern corner of the area. Numerous immatures were observed. Nearly all of the birds were seen in flocks.

Noddy Tern

All 109 of these seen in December were within a few miles of Oahu.

Hawaiian Noddy Tern

One of this species was observed on 7 December in excess of 50 miles from Hawaii, taking part in a feeding flock. This species is rarely reported this far from land in this area.

Fairy Tern

Eight individuals were seen in December, one-half of November's total. Three were seen near Hawaii and the rest were found toward the southern end of the area.

Black-naped Tern

One bird, an immature, which was observed at close range on 19 December conformed exactly in description and call-note to this species. Because of its relatively small size it seems unlikely that it was an immature Arctic or Common Tern, the most likely alternatives.

Pomarine Jaeger

Twenty birds were observed in December all in the immediate vicinity of Oahu.

Gull sp.

Three gulls were seen in the channel at the entrance to Pearl Harbor on 1 December. Two gulls, identified as Ring-billed Gulls by M. Ord, Hawaii Audubon Society, the same week, may have been two of these same birds.

• December 1964 - BCF cruise

Table I

| <u>Date</u> | <u>Minutes of Observation</u> | <u>Miles Covered</u> |
|-------------|-------------------------------|----------------------|
| December 1 | 248 | 48 |
| 2 | 669 | 109 |
| 3 | 680 | 120 |
| 4 | 683 | 110 |
| 5 | 687 | 103 |
| 6 | 675 | 93 |
| 7 | 662 | 114 |
| 8 | 645 | 108 |
| 9 | 646 | 93 |
| 10 | 661 | 113 |
| 11 | 675 | 104 |
| 12 | 684 | 89 |
| 13 | 687 | 110 |
| 14 | 678 | 118 |
| 15 | 663 | 109 |
| 16 | 647 | 122 |
| 17 | 636 | 110 |
| 18 | 644 | 115 |
| 19 | 640 | 107 |
| 20 | 388 | 68 |
| Total | 12598 | 2063 |
| Average | 629.9 | 103.2 |

December 1964 - BCF cruise

Table II

| Date | Total Birds | Total Sightings | Birds/ Sightings | Birds/ Mile | Flocks | Total Birds in Flocks |
|----------|-------------|-----------------|---------------------|----------------|--------|--------------------------|
| 1 Dec 64 | 181 | 18 | 10.06 | 3.77 | 3 | 157 |
| 2 | 8 | 8 | 1.00 | .07 | 0 | 0 |
| 3 | 38 | 9 | 4.22 | .32 | 1 | 30 |
| 4 | 455 | 25 | 1.80 | .41 | 2 | 19 |
| 5 | 47 | 24 | 1.95 | .46 | 1 | 19 |
| 6 | 12 | 10 | 1.20 | .13 | 0 | 0 |
| 7 | 63 | 22 | 2.86 | .55 | 1 | 38 |
| 8 | 30 | 16 | 1.88 | .28 | 0 | 0 |
| 9 | 13 | 10 | 1.30 | .14 | 0 | 0 |
| 10 | 12 | 10 | 1.09 | .11 | 0 | 0 |
| 11 | 217 | 11 | 19.73 | 2.09 | 1 | 206 |
| 12 | 143 | 32 | 4.47 | 1.61 | 3 | 112 |
| 13 | 118 | 26 | 4.54 | 1.07 | 2 | 91 |
| 14 | 141 | 58 | 2.43 | 1.19 | 4 | 70 |
| 15 | 19 | 15 | 1.27 | .17 | 0 | 0 |
| 16 | 13 | 12 | 1.08 | .11 | 0 | 0 |
| 17 | 15 | 11 | 1.36 | .14 | 0 | 0 |
| 18 | 30 | 13 | 2.31 | .26 | 0 | 0 |
| 19 | 50 | 31 | 1.61 | .47 | 1 | 9 |
| 20 | 173 | 33 | 5.24 | 2.54 | 2 | 129 |
| Total | 1368 | 384 | 71.40 | 15.89 | 21 | 880 |
| Average | 68.4 | 19.2 | 3.57 | .79 | 1.1 | 44 |

December 1964 - BCF cruise

Table III

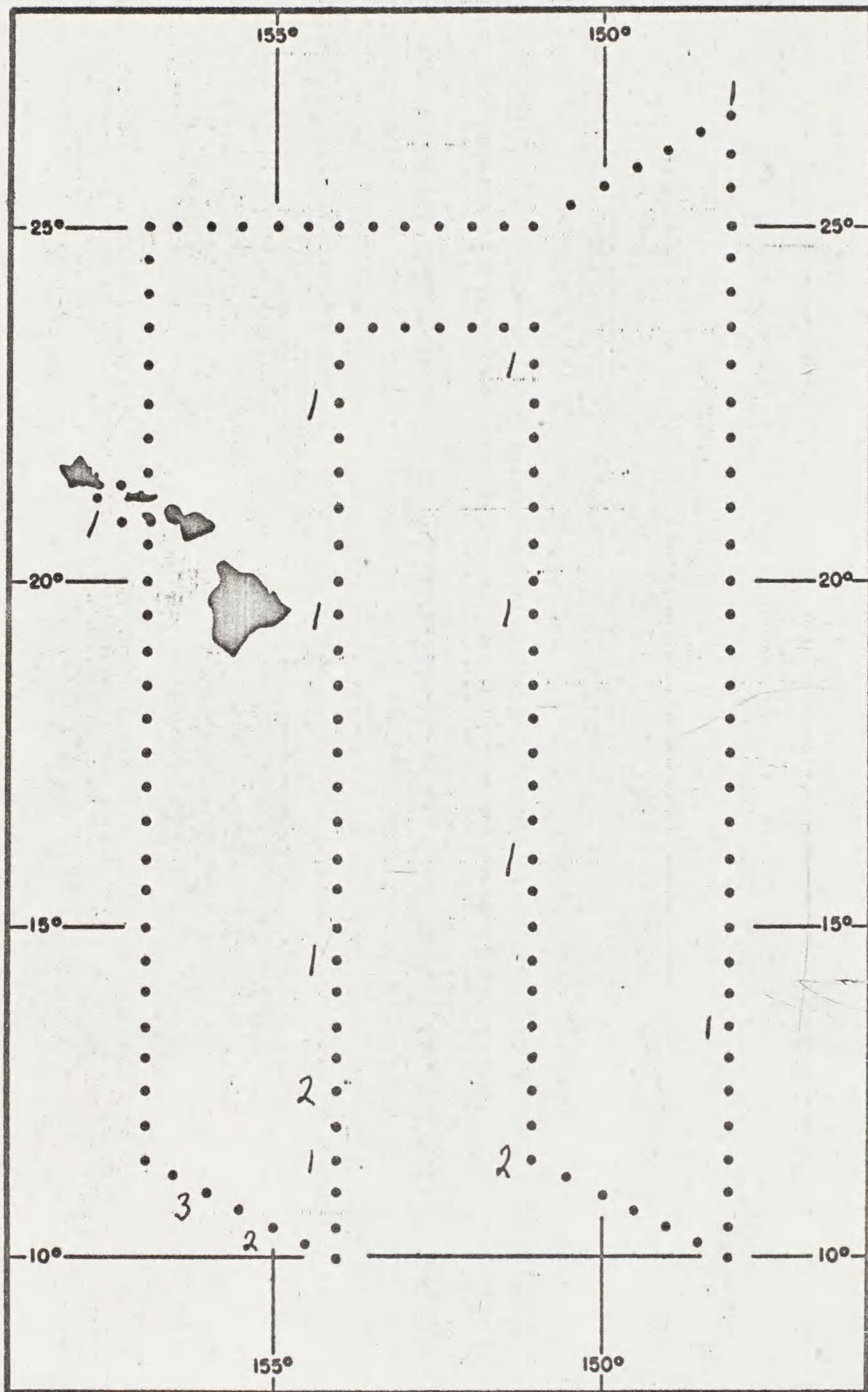
| Date | Procellariids | Tropicbirds | Terns | Boobies | Frigatebirds |
|---------|---------------|-------------|-------|---------|--------------|
| Dec. 1 | 18 | 8 | 129 | 17 | 1 |
| 2 | 5 | 2 | 0 | 0 | 1 |
| 3 | 12 | 1 | 25 | 0 | 0 |
| 4 | 25 | 1 | 19 | 0 | 0 |
| 5 | 31 | 0 | 10 | 1 | 4 |
| 6 | 7 | 2 | 3 | 0 | 0 |
| 7 | 25 | 4 | 34 | 0 | 0 |
| 8 | 28 | 0 | 0 | 2 | 0 |
| 9 | 11 | 2 | 0 | 0 | 0 |
| 10 | 9 | 1 | 0 | 1 | 0 |
| 11 | 15 | 1 | 200 | 0 | 0 |
| 12 | 40 | 0 | 101 | 0 | 0 |
| 13 | 72 | 0 | 46 | 0 | 0 |
| 14 | 106 | 0 | 34 | 1 | 0 |
| 15 | 19 | 0 | 0 | 0 | 0 |
| 16 | 12 | 1 | 0 | 0 | 0 |
| 17 | 15 | 0 | 0 | 0 | 0 |
| 18 | 28 | 1 | 0 | 0 | 1 |
| 19 | 38 | 8 | 1 | 3 | 0 |
| 20 | 21 | 0 | 83 | 52 | 2 |
| Total | 537 | 32 | 685 | 77 | 9 |
| Average | 26.9 | 1.6 | 34.3 | 3.9 | .5 |

December 1964 - BCF cruise

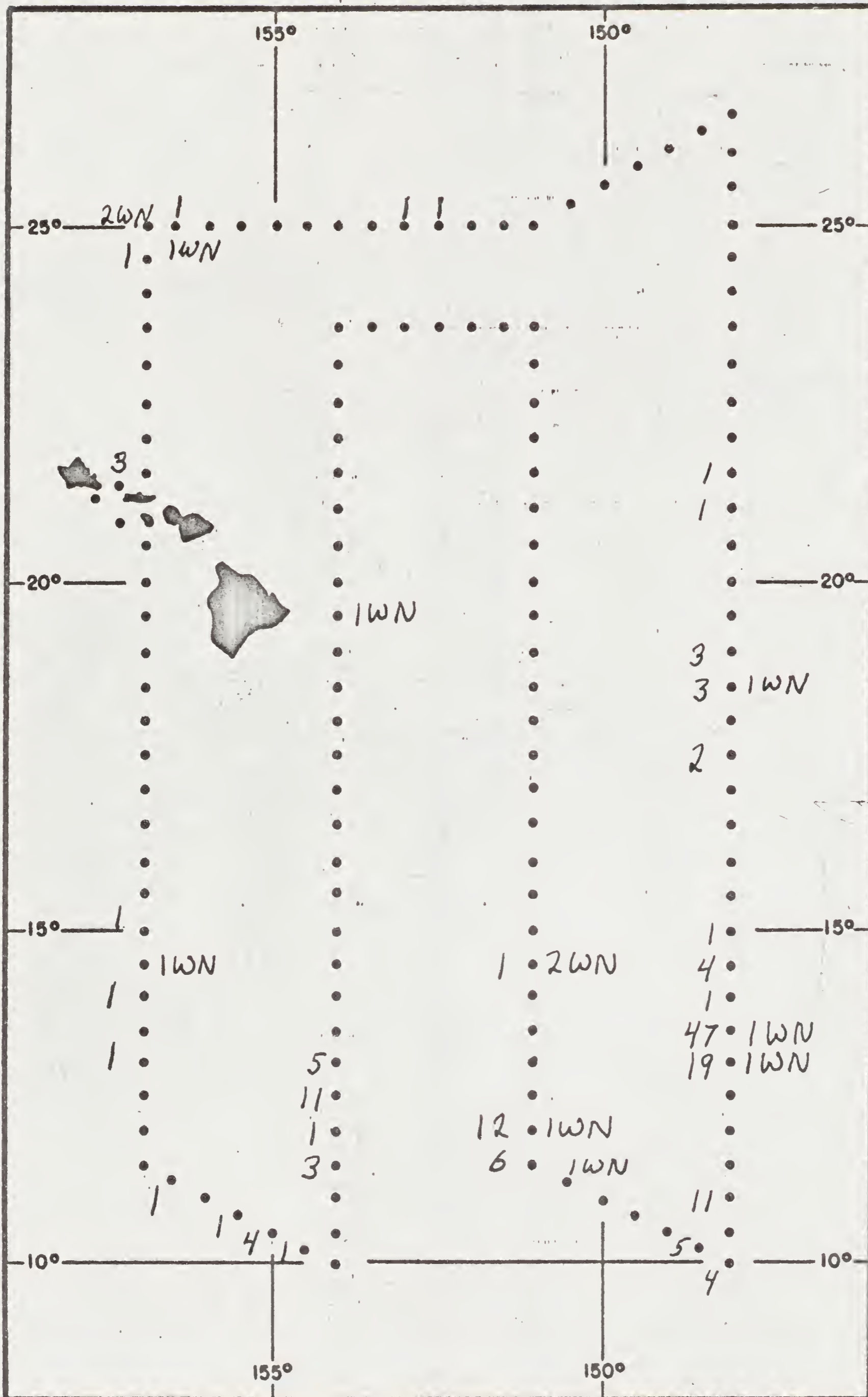
Table V

| Date | Black-footed Albatross | Wedge-tailed Shearwater | Newell's Shearwater | Slender-billed Sooty Shearwater | Cook's Petrel | Juan Fernandez Petrel | Kermadec Petrel | White-necked Petrel | Leach's Storm Petrel species | Miscellaneous and Unidentified Procellariiformes |
|----------------|------------------------|-------------------------|---------------------|---------------------------------|---------------|-----------------------|-----------------|---------------------|------------------------------|--|
| December 1 | 2 | 14 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 3 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 1 | 7 |
| 4 | 0 | 2 | 1 | 0 | 5 | 6 | 1 | 0 | 6 | 3 |
| 5 | 0 | 3 | 0 | 2 | 3 | 20 | 0 | 0 | 0 | 3 |
| 6 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 7 | 0 | 5 | 0 | 8 | 1 | 0 | 1 | 1 | 4 | 3 |
| 8 | 7 | 15 | 1 | 2 | 1 | 0 | 1 | 0 | 0 | 1 |
| 9 | 3 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 2 |
| 10 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 5 |
| 11 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 2 | 6 | 2 |
| 12 | 0 | 5 | 0 | 1 | 2 | 18 | 1 | 2 | 4 | 7 |
| 13 | 0 | 31 | 1 | 0 | 0 | 20 | 0 | 1 | 5 | 14 |
| 14 | 0 | 9 | 0 | 1 | 1 | 72 | 0 | 2 | 5 | 13 |
| 15 | 0 | 0 | 0 | 1 | 0 | 8 | 0 | 1 | 1 | 7 |
| 16 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 7 | 2 |
| 17 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 9 | 0 |
| 18 | 18 | 1 | 0 | 2 | 0 | 1 | 2 | 0 | 3 | 0 |
| 19 | 10 | 7 | 1 | 0 | 0 | 2 | 3 | 3 | 4 | 6 |
| 20 | 10 | 3 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 3 |
| Total | 55 | 106 | 4 | 19 | 19 | 156 | 9 | 13 | 58 | 81 |
| Average | 2.8 | 5.3 | .2 | 1.0 | 1.0 | 7.8 | .5 | .7 | 2.9 | 4.1 |

Cook's Petrel 19

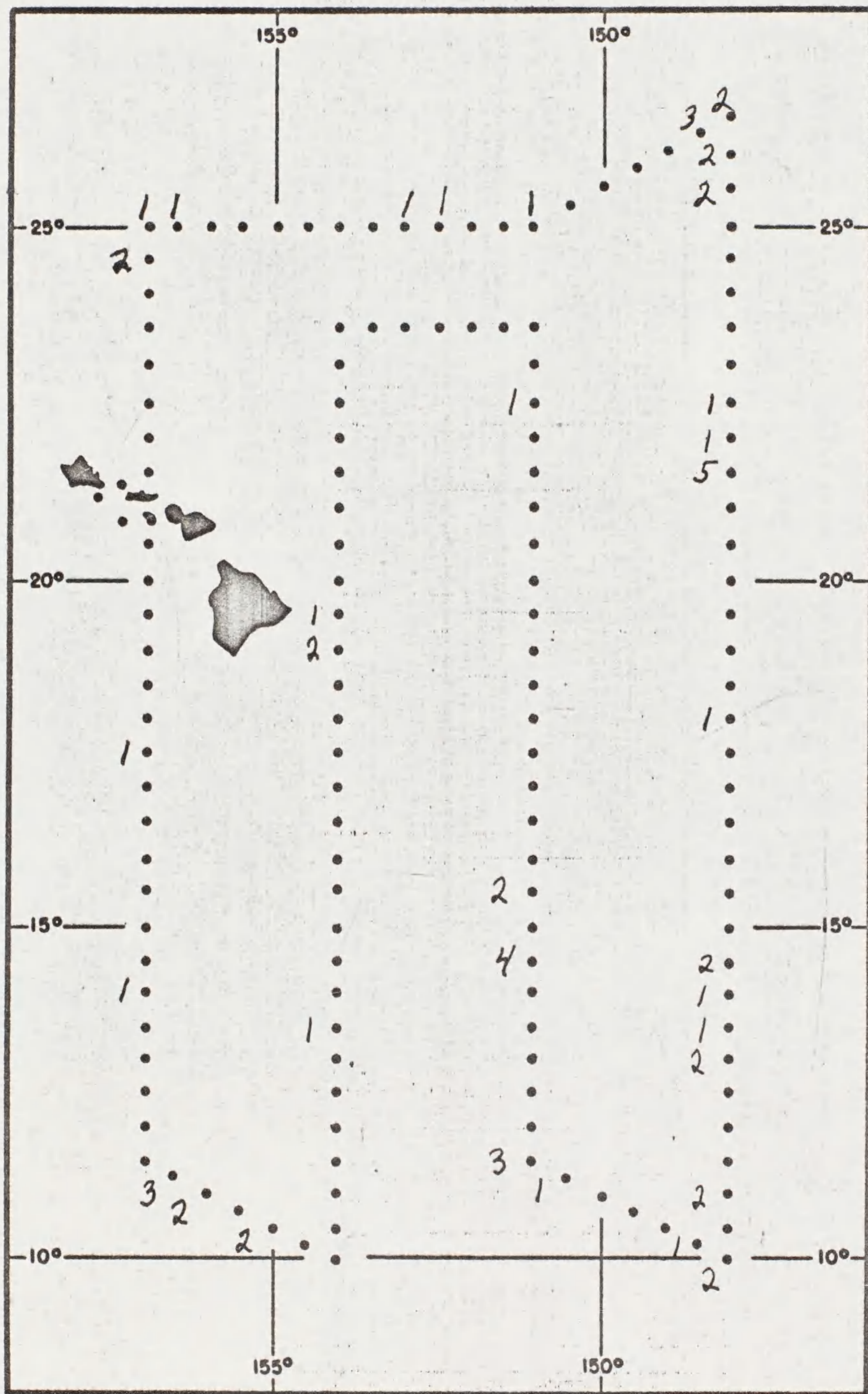


Juan Fernandez Petrel 156
 White-necked Petrel 13

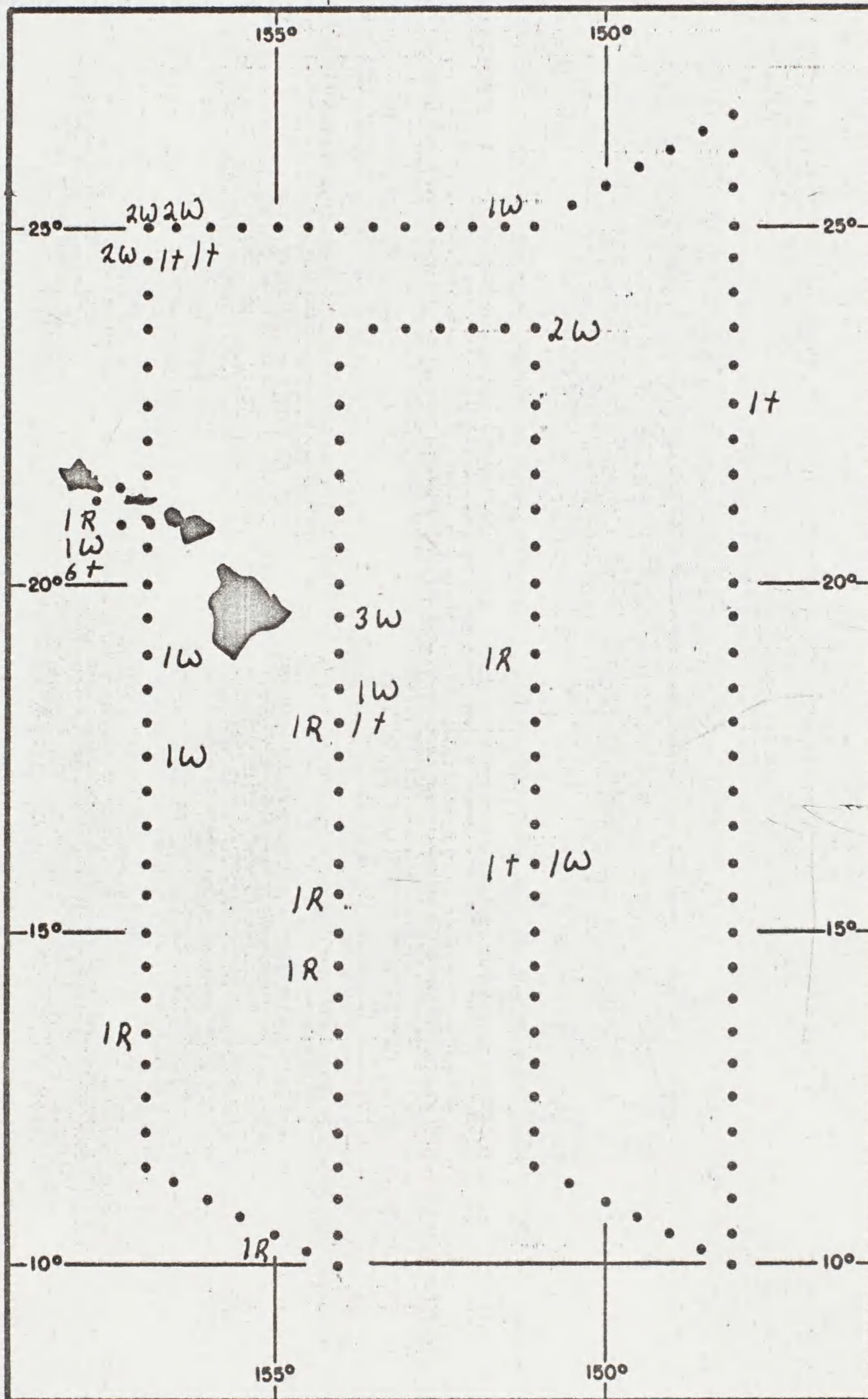


11

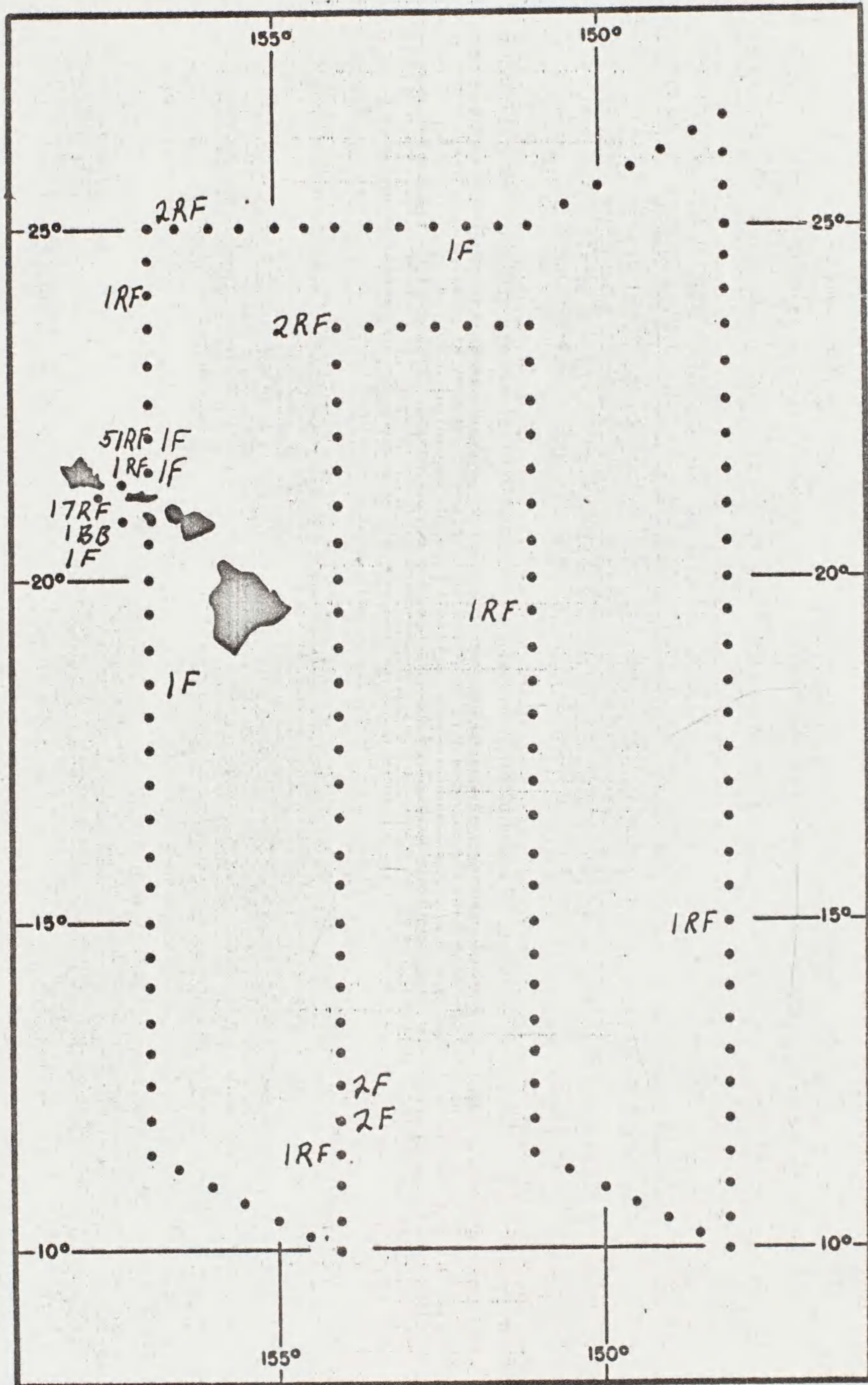
Leach's and Storm Petrel species 58



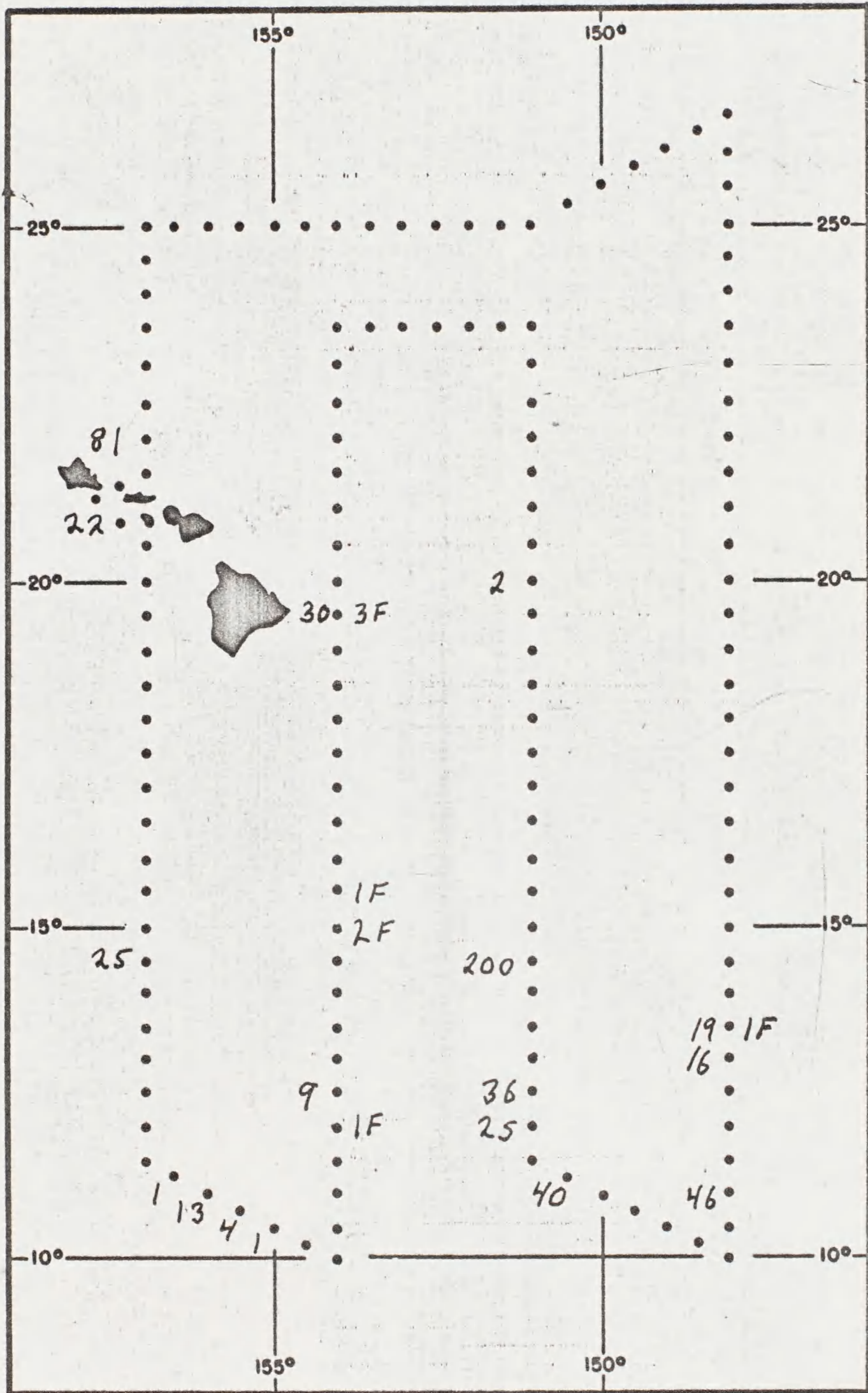
Red-tailed Tropicbird 6
 White-tailed Tropicbird 17
 Tropicbird species 13

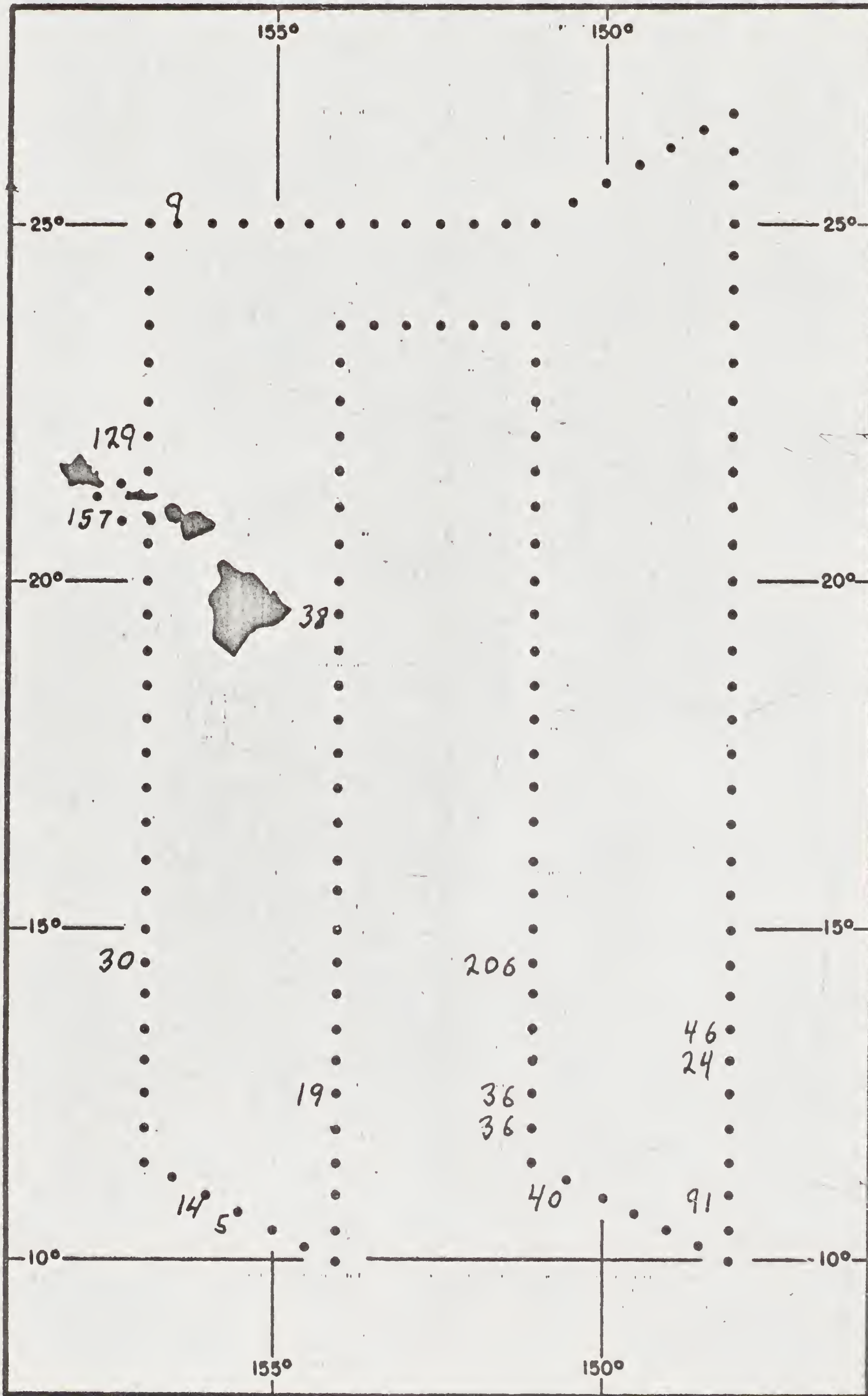


Red-footed Booby 77
 Brown Booby 1
 Frigatebird 9

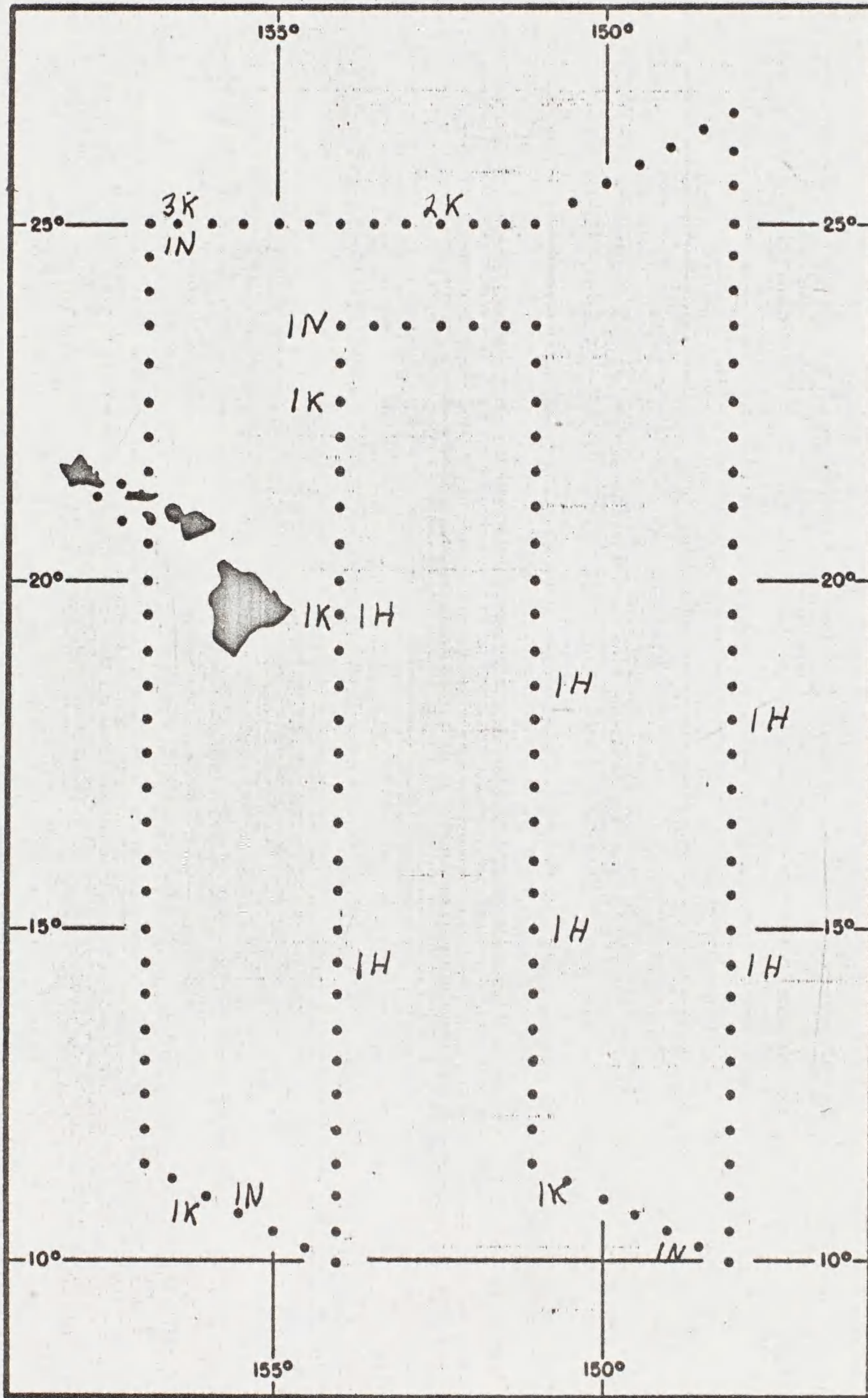


Sooty Tern 566
 Fairy Tern 8

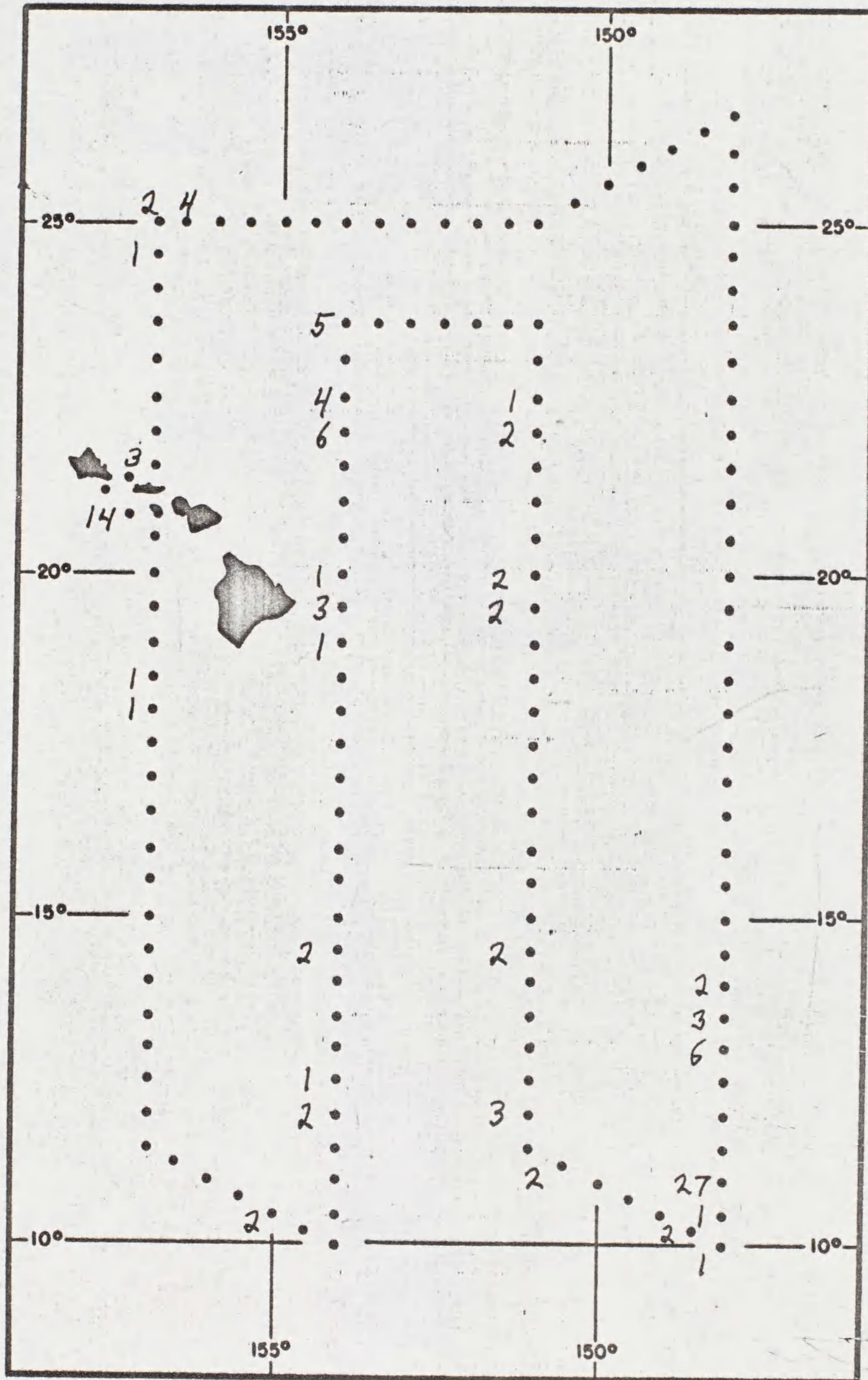




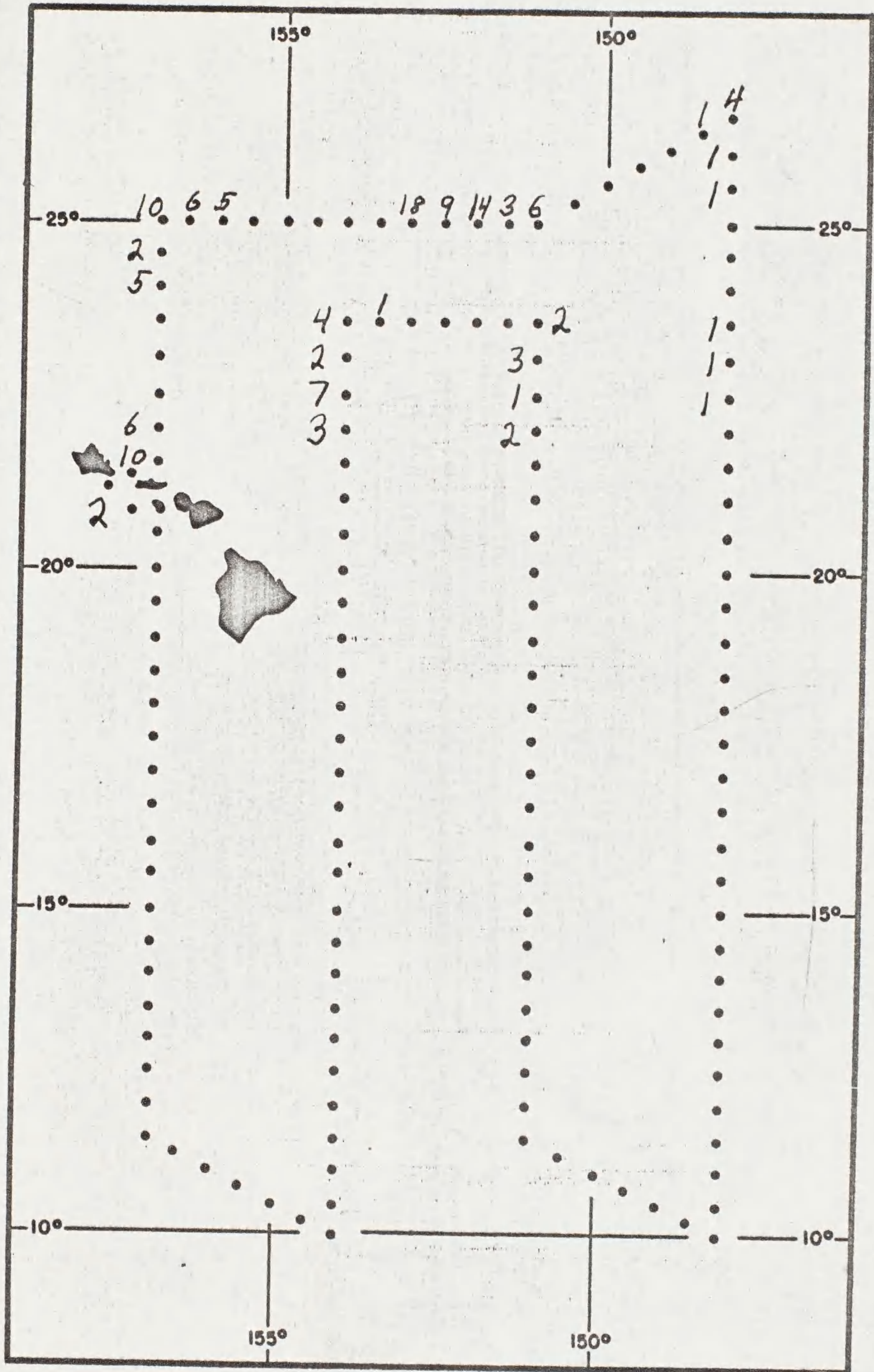
Newell's Shearwater 4
Kermadec Petrel 9
Herald's Petrel 6

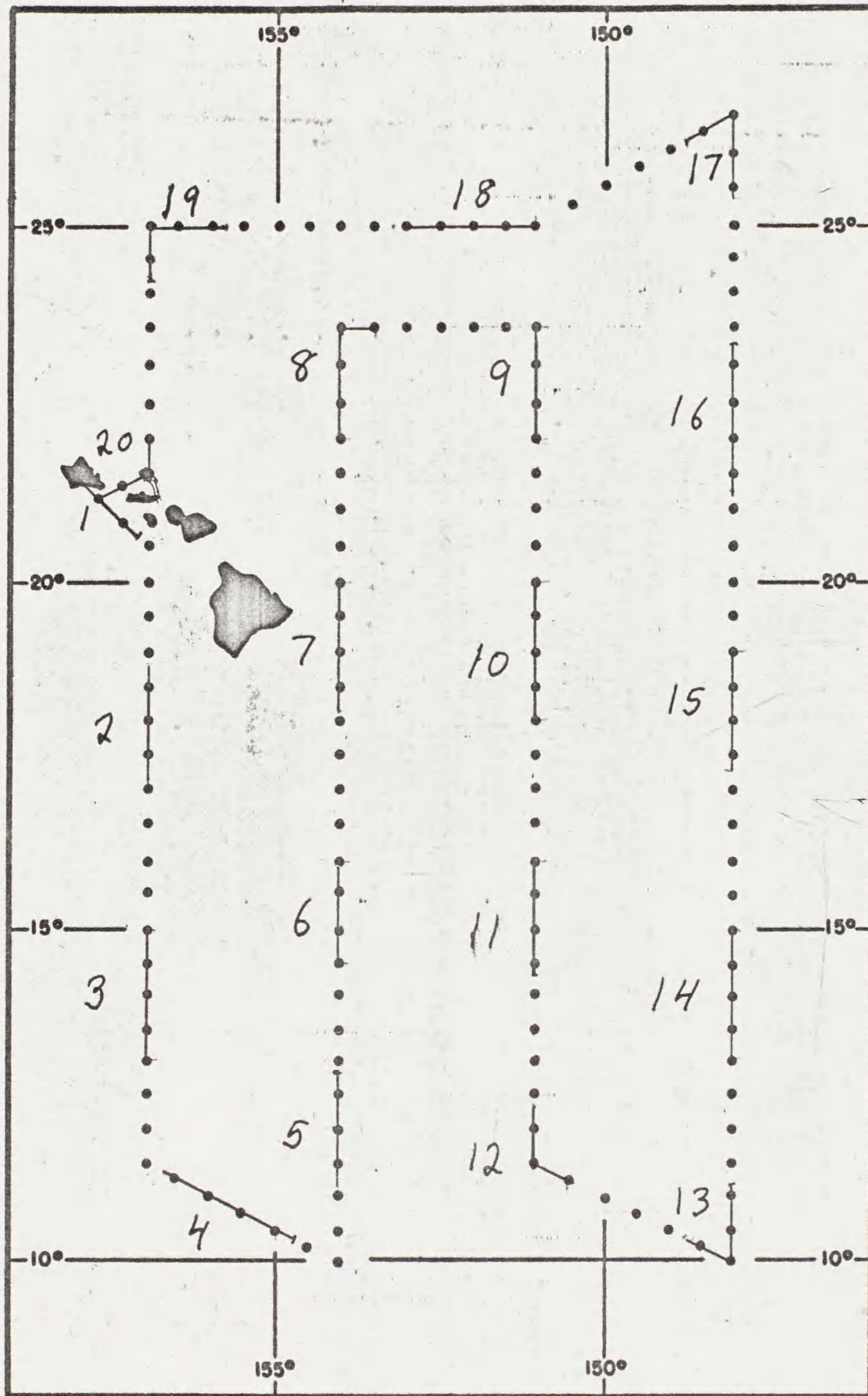


Wedge-tailed Shearwater 106

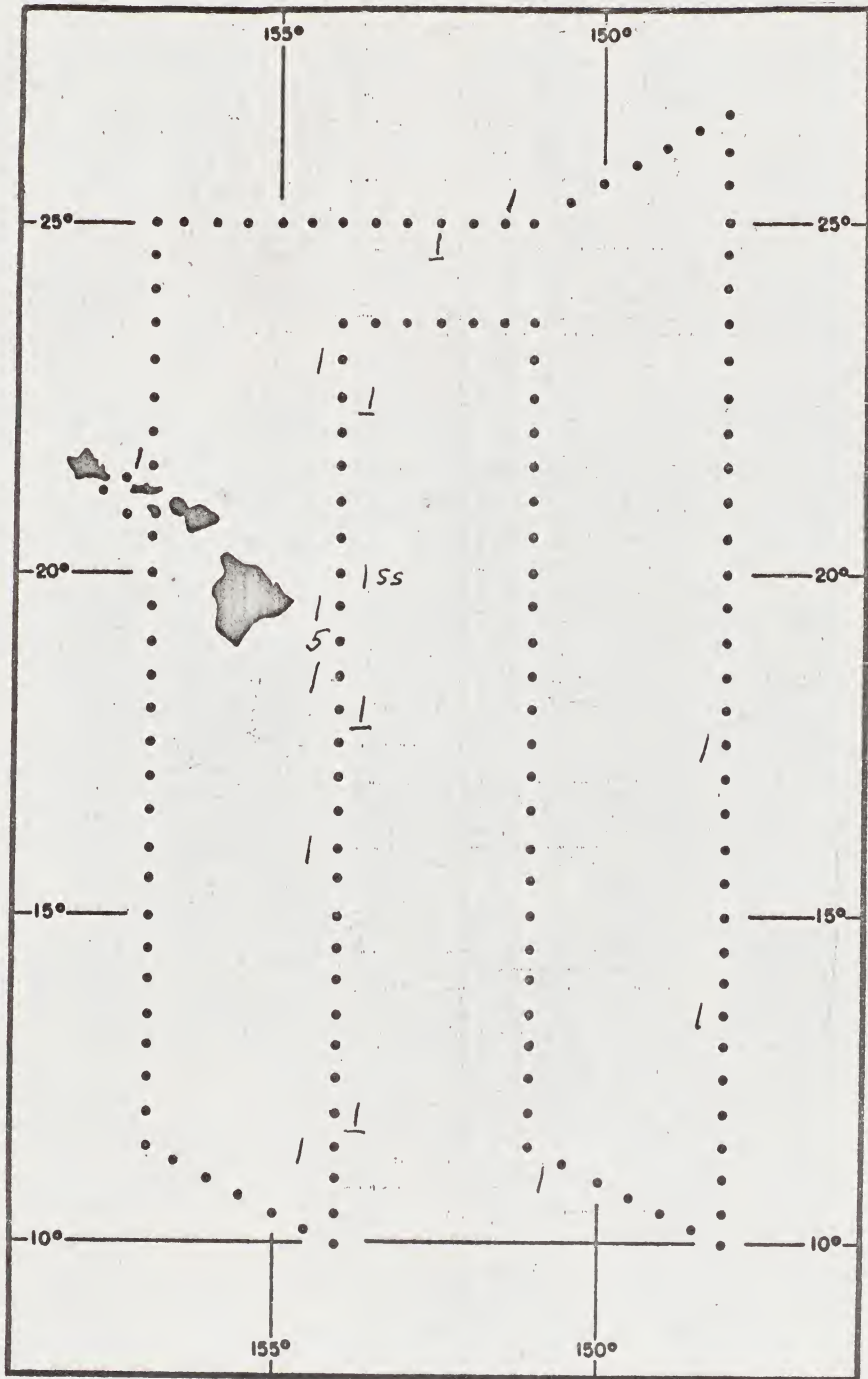


Black-footed Albatross 55





Slender-billed Shearwater 15
Sooty Shearwater 1
Slender-billed/ Sooty Shearwater 3



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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 1 Dec 64 Total Minutes: 248 Total Miles 48

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|------------|----------------|-------------|
| <u>18</u> | <u>181</u> | <u>10.06</u> | <u>3.77</u> |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----------|----------|----------|-----------|-----------|----------|----------|----------------|-------------|----------|----------|------------|------------|------------|----------|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| <u>5</u> | <u>3</u> | <u>1</u> | <u>0</u> | <u>18</u> | <u>14</u> | <u>1</u> | <u>0</u> | <u>3.6</u> | <u>4.67</u> | <u>1</u> | <u>0</u> | <u>.38</u> | <u>.29</u> | <u>.02</u> | <u>0</u> |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----------|----------|-----------|----------|----------|----------------|----------|----------|------------|------------|------------|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| <u>4</u> | <u>1</u> | <u>1</u> | <u>8</u> | <u>1</u> | <u>1</u> | <u>2</u> | <u>1</u> | <u>1</u> | <u>.17</u> | <u>.02</u> | <u>.02</u> |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|------------|----------------|-------------|
| <u>6</u> | <u>129</u> | <u>21.5</u> | <u>2.69</u> |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----------|----------|----------|-----------|----------|-----------|----------|----------------|----------|----------|----------|------------|----------|------------|------------|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| <u>3</u> | <u>0</u> | <u>2</u> | <u>1</u> | <u>17</u> | <u>0</u> | <u>16</u> | <u>1</u> | <u>5.67</u> | <u>0</u> | <u>8</u> | <u>1</u> | <u>.35</u> | <u>0</u> | <u>.33</u> | <u>.02</u> |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>1</u> | <u>1</u> | <u>1.0</u> | <u>.02</u> |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/Mi. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/MI. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| <u>3</u> | <u>157</u> | <u>.06</u> | <u>3</u> | <u>157</u> | <u>.06</u> |

SI-MNH-955a
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 2 Dec 64 Total Minutes: 669 Total Miles 109

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>8</u> | <u>8</u> | <u>1.0</u> | <u>.07</u> |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----------|----------|----------|-----------|----------|----------|----------|----------------|----------|----------|----------|------------|------------|----------|----------|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| <u>5</u> | <u>2</u> | <u>0</u> | <u>0</u> | <u>5</u> | <u>2</u> | <u>0</u> | <u>0</u> | <u>1.0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>.05</u> | <u>.02</u> | <u>0</u> | <u>0</u> |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----------|----------|-----------|----------|----------|----------------|----------|------------|------------|----------|------------|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| <u>2</u> | <u>0</u> | <u>2</u> | <u>2</u> | <u>0</u> | <u>2</u> | <u>1.0</u> | <u>0</u> | <u>1.0</u> | <u>.02</u> | <u>0</u> | <u>.02</u> |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|----|---|-----------|----|----|---|----------------|----|----|---|------------|----|----|---|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| <u>0</u> | | | | <u>0</u> | | | | <u>0</u> | | | | <u>0</u> | | | |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>1</u> | <u>1</u> | <u>1.0</u> | <u>.01</u> |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/Mi. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/MI. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

SI-MNH-955a
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 3 Dec 64 Total Minutes: 680 Total Miles 120

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>9</u> | <u>38</u> | <u>4.22</u> | <u>.32</u> |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----------|----------|----------|-----------|----------|----------|----------|----------------|----------|----------|----------|------------|----------|------------|----------|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| <u>8</u> | <u>0</u> | <u>4</u> | <u>0</u> | <u>12</u> | <u>0</u> | <u>4</u> | <u>0</u> | <u>1.5</u> | <u>0</u> | <u>1</u> | <u>0</u> | <u>.10</u> | <u>0</u> | <u>.03</u> | <u>0</u> |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----------|----------|-----------|----------|----------|----------------|----------|----------|------------|------------|----------|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| <u>1</u> | <u>1</u> | <u>0</u> | <u>1</u> | <u>1</u> | <u>0</u> | <u>1</u> | <u>1</u> | <u>0</u> | <u>.01</u> | <u>.01</u> | <u>0</u> |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>1</u> | <u>25</u> | <u>25</u> | <u>.21</u> |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|----|---|-----------|----|----|---|----------------|----|----|---|------------|----|----|---|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| <u>0</u> | | | | <u>0</u> | | | | <u>0</u> | | | | <u>0</u> | | | |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/Mi. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/MI. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| <u>1</u> | <u>30</u> | <u>.01</u> | <u>1</u> | <u>30</u> | <u>.01</u> |

SI-MNH-955a
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 4 Dec 64 Total Minutes: 683 Total Miles 110

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>25</u> | <u>45</u> | <u>1.8</u> | <u>.41</u> |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----------|-----------|----------|-----------|----------|-----------|----------|----------------|----------|------------|----------|------------|------------|------------|------------|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| <u>21</u> | <u>2</u> | <u>10</u> | <u>1</u> | <u>25</u> | <u>2</u> | <u>12</u> | <u>1</u> | <u>1.19</u> | <u>1</u> | <u>1.2</u> | <u>1</u> | <u>.23</u> | <u>.02</u> | <u>.11</u> | <u>.01</u> |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----------|----------|-----------|----------|----------|----------------|----------|----------|------------|------------|----------|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| <u>1</u> | <u>1</u> | <u>0</u> | <u>1</u> | <u>1</u> | <u>0</u> | <u>1</u> | <u>1</u> | <u>0</u> | <u>.01</u> | <u>.01</u> | <u>0</u> |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>5</u> | <u>19</u> | <u>3.8</u> | <u>.17</u> |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----------|----------|----------|-----------|----------|----------|----------|----------------|----------|----------|----------|------------|----------|----------|----------|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/Mi. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/MI. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| <u>2</u> | <u>19</u> | <u>.02</u> | <u>1</u> | <u>14</u> | <u>.01</u> |

SI-MNH-955a
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 5 Dec 64 Total Minutes: 687 Total Miles 103

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>24</u> | <u>47</u> | <u>1.95</u> | <u>.46</u> |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----------|-----------|----------|-----------|----------|-----------|----------|----------------|------------|-------------|----------|------------|------------|------------|---|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| <u>20</u> | <u>3</u> | <u>13</u> | <u>0</u> | <u>31</u> | <u>3</u> | <u>24</u> | <u>0</u> | <u>1.55</u> | <u>1.0</u> | <u>1.85</u> | <u>0</u> | <u>.30</u> | <u>.03</u> | <u>.23</u> | |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----|----|-----------|----|----|----------------|----|----|------------|----|----|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| <u>0</u> | | | <u>0</u> | | | <u>0</u> | | | <u>0</u> | | |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>2</u> | <u>10</u> | <u>5.0</u> | <u>.10</u> |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----------|----------|----------|-----------|----------|----------|----------|----------------|----------|------------|----------|------------|----------|------------|----------|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| <u>1</u> | <u>0</u> | <u>1</u> | <u>0</u> | <u>1</u> | <u>0</u> | <u>1</u> | <u>0</u> | <u>1.0</u> | <u>0</u> | <u>1.0</u> | <u>0</u> | <u>.01</u> | <u>0</u> | <u>.01</u> | <u>0</u> |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>2</u> | <u>4</u> | <u>2.0</u> | <u>.04</u> |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/Mi. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/MI. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| <u>1</u> | <u>19</u> | <u>.01</u> | <u>1</u> | <u>19</u> | <u>.01</u> |

SI-MNH-955a
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 6 Dec 64 Total Minutes: 675 Total Miles 93

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>10</u> | <u>12</u> | <u>1.2</u> | <u>.13</u> |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----------|----------|----------|-----------|----------|----------|----------|----------------|------------|------------|----------|------------|------------|------------|----------|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| <u>6</u> | <u>2</u> | <u>2</u> | <u>0</u> | <u>7</u> | <u>2</u> | <u>2</u> | <u>0</u> | <u>1.17</u> | <u>1.0</u> | <u>1.0</u> | <u>0</u> | <u>.08</u> | <u>.02</u> | <u>.02</u> | <u>0</u> |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----------|----------|-----------|----------|----------|----------------|------------|----------|------------|------------|----------|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| <u>2</u> | <u>2</u> | <u>0</u> | <u>2</u> | <u>2</u> | <u>0</u> | <u>1.0</u> | <u>1.0</u> | <u>0</u> | <u>.02</u> | <u>.02</u> | <u>0</u> |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>2</u> | <u>3</u> | <u>1.5</u> | <u>.03</u> |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|----|---|-----------|----|----|---|----------------|----|----|---|------------|----|----|---|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| <u>0</u> | | | | <u>0</u> | | | | <u>0</u> | | | | <u>0</u> | | | |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/Mi. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/MI. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

SI-MNH-955a
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 7 Dec 64 Total Minutes: 662 Total Miles 114

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>22</u> | <u>63</u> | <u>2.86</u> | <u>.55</u> |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----------|----------|----------|-----------|----------|----------|----------|----------------|------------|-------------|----------|------------|------------|------------|----------|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| <u>20</u> | <u>3</u> | <u>4</u> | <u>0</u> | <u>25</u> | <u>5</u> | <u>5</u> | <u>0</u> | <u>1.25</u> | <u>.67</u> | <u>1.25</u> | <u>0</u> | <u>.22</u> | <u>.04</u> | <u>.04</u> | <u>0</u> |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----------|----------|-----------|----------|----------|----------------|----------|------------|------------|----------|------------|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| <u>2</u> | <u>0</u> | <u>2</u> | <u>4</u> | <u>0</u> | <u>4</u> | <u>2.0</u> | <u>0</u> | <u>2.0</u> | <u>.04</u> | <u>0</u> | <u>.04</u> |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>1</u> | <u>34</u> | <u>34.0</u> | <u>.30</u> |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|----|---|-----------|----|----|---|----------------|----|----|---|------------|----|----|---|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| <u>0</u> | | | | <u>0</u> | | | | <u>0</u> | | | | <u>0</u> | | | |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/MI. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/MI. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| <u>1</u> | <u>38</u> | <u>.01</u> | <u>1</u> | <u>38</u> | <u>.01</u> |

SI-MNH-955a
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 8 Dec 64 Total Minutes: 645 Total Miles 108

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>16</u> | <u>30</u> | <u>1.88</u> | <u>.28</u> |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----------|----------|----------|-----------|-----------|----------|----------|----------------|-------------|------------|----------|------------|------------|------------|----------|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| <u>15</u> | <u>9</u> | <u>2</u> | <u>0</u> | <u>28</u> | <u>15</u> | <u>2</u> | <u>0</u> | <u>1.87</u> | <u>1.67</u> | <u>1.0</u> | <u>0</u> | <u>.26</u> | <u>.14</u> | <u>.02</u> | <u>0</u> |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----|----|-----------|----|----|----------------|----|----|------------|----|----|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| <u>0</u> | | | <u>0</u> | | | <u>0</u> | | | <u>0</u> | | |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----------|----------|----------|-----------|----------|----------|----------|----------------|----------|------------|----------|------------|----------|------------|----------|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| <u>1</u> | <u>0</u> | <u>1</u> | <u>0</u> | <u>2</u> | <u>0</u> | <u>2</u> | <u>0</u> | <u>2.0</u> | <u>0</u> | <u>2.0</u> | <u>0</u> | <u>.02</u> | <u>0</u> | <u>.02</u> | <u>0</u> |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/MI. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/MI. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

SI-MNH-955a
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 9 Dec 64 Total Minutes: 646 Total Miles 93

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 10 | 13 | 1.3 | .14 |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|---|---|-----------|----|---|---|----------------|-----|-----|---|------------|-----|-----|---|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| 9 | 3 | 1 | 0 | 11 | 3 | 1 | 0 | 1.22 | 1.0 | 1.0 | 0 | .12 | .03 | .01 | 0 |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----|----|-----------|----|----|----------------|----|-----|------------|----|-----|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| 1 | 0 | 1 | 2 | 0 | 2 | 2.0 | 0 | 2.0 | .02 | 0 | .02 |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|----|---|-----------|----|----|---|----------------|----|----|---|------------|----|----|---|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| 0 | | | | 0 | | | | 0 | | | | 0 | | | |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/Mi. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/MI. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| 0 | 0 | 0 | 0 | 0 | 0 |

DATE: 10 Dec 64 Total Minutes: 661 Total Miles: 113

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 11 | 12 | 1.09 | .11 |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|---|---|-----------|----|---|---|----------------|-----|-----|---|------------|-----|-----|---|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| 8 | 2 | 4 | 0 | 9 | 2 | 4 | 0 | 1.13 | 1.0 | 1.0 | 0 | .08 | .02 | .04 | 0 |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----|----|-----------|----|----|----------------|-----|----|------------|-----|----|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| 1 | 1 | 0 | 1 | 1 | 0 | 1.0 | 1.0 | 0 | .01 | .01 | 0 |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|----|---|-----------|----|----|---|----------------|----|-----|---|------------|----|-----|---|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1.0 | 0 | 1.0 | 0 | .01 | 0 | .01 | 0 |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/Mi. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/Mi. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| 0 | 0 | 0 | 0 | 0 | 0 |

212

DATE: 11 Dec 64 Total Minutes: 675 Total Miles: 104

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|------------|----------------|-------------|
| <u>11</u> | <u>217</u> | <u>19.73</u> | <u>2.09</u> |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----------|----------|----------|-----------|----------|----------|----------|----------------|------------|-------------|----------|------------|------------|------------|---|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| <u>9</u> | <u>1</u> | <u>3</u> | <u>0</u> | <u>15</u> | <u>2</u> | <u>5</u> | <u>0</u> | <u>1.67</u> | <u>2.0</u> | <u>1.67</u> | <u>0</u> | <u>.14</u> | <u>.02</u> | <u>.05</u> | |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----------|----------|-----------|----------|----------|----------------|----------|------------|------------|----------|------------|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| <u>1</u> | <u>0</u> | <u>1</u> | <u>1</u> | <u>0</u> | <u>1</u> | <u>1.0</u> | <u>0</u> | <u>1.0</u> | <u>.01</u> | <u>0</u> | <u>.01</u> |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|------------|----------------|-------------|
| <u>1</u> | <u>200</u> | <u>200</u> | <u>1.92</u> |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|----|---|-----------|----|----|---|----------------|----|----|---|------------|----|----|---|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| <u>0</u> | | | | <u>0</u> | | | | <u>0</u> | | | | <u>0</u> | | | |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/Mi. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/Mi. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| <u>1</u> | <u>206</u> | <u>.01</u> | <u>1</u> | <u>206</u> | <u>.01</u> |



DATE: 12 Dec 64 Total Minutes: 684 Total Miles: 89

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 32 | 143 | 4.47 | 1.61 |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|----|---|-----------|----|----|---|----------------|------|------|---|------------|-----|-----|---|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| 28 | 4 | 12 | 0 | 40 | 52 | 30 | 0 | 1.43 | 1.25 | 1.92 | 0 | .45 | .06 | .26 | 0 |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----|----|-----------|----|----|----------------|----|----|------------|----|----|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| 0 | | | 0 | | | 0 | | | 0 | | |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 4 | 101 | 25.25 | 1.13 |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|----|---|-----------|----|----|---|----------------|----|----|---|------------|----|----|---|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| 0 | | | | 0 | | | | 0 | | | | 0 | | | |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/Mi. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/Mi. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| 3 | 112 | .03 | 3 | 112 | .03 |

DATE: 13 Dec 64 Total Minutes: 687 Total Miles: 110

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 26 | 118 | 4.54 | 1.07 |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|----|---|-----------|----|----|---|----------------|------|------|---|------------|------|------|---|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| 25 | 7 | 12 | 0 | 72 | 31 | 22 | 0 | 2.88 | 4.43 | 1.83 | 0 | 1.65 | 1.28 | 1.20 | 0 |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----|----|-----------|----|----|----------------|----|----|------------|----|----|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| 0 | | | 0 | | | 0 | | | 0 | | |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 3 | 46 | 15.33 | .42 |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|----|---|-----------|----|----|---|----------------|----|----|---|------------|----|----|---|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| 0 | | | | 0 | | | | 0 | | | | 0 | | | |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/Mi. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/Mi. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| 2 | 91 | 1.02 | 1 | 85 | 1.01 |

DATE: 14 Dec 64 Total Minutes: 678 Total Miles: 118

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 58 | 141 | 2.43 | 1.19 |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|----|---|-----------|----|----|---|----------------|------|------|------|------------|-----|---|---|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| 53 | 8 | 33 | 0 | 106 | 9 | 77 | 0 | 2.0 | 1.13 | 2.33 | 0.90 | .08 | .65 | | |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----|----|-----------|----|----|----------------|----|----|------------|----|----|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| 0 | | | 0 | | | 0 | | | 0 | | |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 7 | 34 | 4.86 | .29 |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|----|---|-----------|----|----|---|----------------|----|-----|---|------------|----|-----|---|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1.0 | 0 | 1.0 | 0 | .01 | 0 | .01 | 0 |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/Mi. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/Mi. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| 4 | 70 | .03 | 3 | 61 | .03 |



DATE: 15 Dec 64 Total Minutes: 663 Total Miles: 109

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 15 | 19 | 1.27 | .17 |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|---|---|-----------|----|----|---|----------------|----|------|---|------------|----|-----|---|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| 15 | 0 | 7 | 0 | 19 | 0 | 10 | 0 | 1.27 | 0 | 1.43 | 0 | .17 | 0 | .09 | 0 |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----|----|-----------|----|----|----------------|----|----|------------|----|----|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| 0 | | | 0 | | | 0 | | | 0 | | |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|----|---|-----------|----|----|---|----------------|----|----|---|------------|----|----|---|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| 0 | | | | 0 | | | | 0 | | | | 0 | | | |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/Mi. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/Mi. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| 0 | 0 | 0 | 0 | 0 | 0 |

DATE: 16 Dec 64 Total Minutes: 647 Total Miles: 122

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 12 | 13 | 1.08 | .11 |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|---|---|-----------|----|---|---|----------------|----|-----|---|------------|----|-----|---|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| 11 | 0 | 2 | 0 | 12 | 0 | 2 | 0 | 1.09 | 0 | 1.0 | 0 | .10 | 0 | .07 | 0 |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----|----|-----------|----|----|----------------|----|----|------------|----|----|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| 1 | 0 | 0 | 1 | 0 | 0 | 1.0 | 0 | 0 | .01 | 0 | 0 |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|----|---|-----------|----|----|---|----------------|----|----|---|------------|----|----|---|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/Mi. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/Mi. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| 0 | 0 | 0 | 0 | 0 | 0 |

DATE: 17 Dec 64 Total Minutes: 636 Total Miles: 110

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 11 | 15 | 1.36 | .14 |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|---|---|-----------|----|---|---|----------------|----|-----|---|------------|----|-----|---|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| 11 | 0 | 2 | 0 | 15 | 0 | 2 | 0 | 1.36 | 0 | 1.0 | 0 | .14 | 0 | .02 | 0 |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----|----|-----------|----|----|----------------|----|----|------------|----|----|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| 0 | | | 0 | | | 0 | | | 0 | | |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|----|---|-----------|----|----|---|----------------|----|----|---|------------|----|----|---|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| 0 | | | | 0 | | | | 0 | | | | 0 | | | |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/Mi. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/Mi. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| 0 | 0 | 0 | 0 | 0 | 0 |

DATE: 18 Dec 64 Total Minutes: 644 Total Miles: 115

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 13 | 30 | 2.31 | .26 |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|---|---|-----------|----|---|---|----------------|-----|-----|---|------------|-----|-----|---|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| 11 | 1 | 4 | 0 | 28 | 1 | 4 | 0 | 2.55 | 1.0 | 1.0 | 0 | .24 | .01 | .03 | 0 |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----|----|-----------|----|----|----------------|----|-----|------------|----|-----|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| 1 | 0 | 1 | 1 | 0 | 1 | 1.0 | 0 | 1.0 | .01 | 0 | .01 |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 0 | 0 | 0 | 0 |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----|----|---|-----------|----|----|---|----------------|----|----|---|------------|----|----|---|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| 0 | | | | 0 | | | | 0 | | | | 0 | | | |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| 1 | 1 | 1.0 | .01 |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/Mi. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/Mi. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| 0 | 0 | 0 | 0 | 0 | 0 |

DATE: 19 Dec 64

Total Minutes: 640

Total Miles: 107

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>31</u> | <u>50</u> | <u>1.61</u> | <u>.47</u> |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----------|----------|----------|-----------|----------|-----------|----------|----------------|-------------|-------------|----------|------------|------------|------------|----------|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| <u>22</u> | <u>6</u> | <u>6</u> | <u>0</u> | <u>38</u> | <u>7</u> | <u>10</u> | <u>0</u> | <u>1.75</u> | <u>1.17</u> | <u>1.67</u> | <u>0</u> | <u>.36</u> | <u>.07</u> | <u>.09</u> | <u>0</u> |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----------|----------|-----------|----------|----------|----------------|----------|------------|------------|----------|------------|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| <u>6</u> | <u>0</u> | <u>4</u> | <u>8</u> | <u>0</u> | <u>6</u> | <u>1.33</u> | <u>0</u> | <u>1.5</u> | <u>.07</u> | <u>0</u> | <u>.06</u> |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>1</u> | <u>1</u> | <u>1.0</u> | <u>.01</u> |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----------|----------|----------|-----------|----------|----------|----------|----------------|----------|------------|----------|------------|----------|------------|----------|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| <u>3</u> | <u>0</u> | <u>3</u> | <u>0</u> | <u>3</u> | <u>0</u> | <u>3</u> | <u>0</u> | <u>1.0</u> | <u>0</u> | <u>1.0</u> | <u>0</u> | <u>.01</u> | <u>0</u> | <u>.01</u> | <u>0</u> |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/Mi. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/Mi. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| <u>1</u> | <u>9</u> | <u>.01</u> | <u>1</u> | <u>9</u> | <u>.01</u> |

DATE: 20 Dec 64

Total Minutes: 388

Total Miles: 68

I. Total Abundance of birds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|------------|----------------|-------------|
| <u>33</u> | <u>173</u> | <u>5.24</u> | <u>2.54</u> |

II. Abundance of the Shearwater-Petrel-Albatross Group:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----------|----------|----------|-----------|----------|----------|----------|----------------|------------|------------|----------|-------------|-------------|-------------|----------|
| T | WT | P | B | T | WT | P | B | T | WT | P | B | T | WT | P | B |
| <u>11</u> | <u>2</u> | <u>3</u> | <u>0</u> | <u>21</u> | <u>3</u> | <u>3</u> | <u>0</u> | <u>1.91</u> | <u>1.5</u> | <u>1.0</u> | <u>0</u> | <u>1.31</u> | <u>1.04</u> | <u>1.04</u> | <u>0</u> |

III. Abundance of Tropicbirds:

| No. Sightings | | | No. Birds | | | Birds/Sighting | | | Birds/Mile | | |
|---------------|----------|----------|-----------|----------|----------|----------------|----------|----------|------------|----------|----------|
| T | RT | WT | T | RT | WT | T | RT | WT | T | RT | WT |
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

IV. Abundance of Terns:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|-------------|
| <u>5</u> | <u>83</u> | <u>16.6</u> | <u>1.22</u> |

V. Abundance of Shorebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|------------|
| <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |

VI. Abundance of Boobys:

| No. Sightings | | | | No. Birds | | | | Birds/Sighting | | | | Birds/Mile | | | |
|---------------|----------|----------|----------|-----------|----------|-----------|----------|----------------|----------|------------|----------|-------------|----------|-------------|----------|
| T | BF | RF | B | T | BF | RF | B | T | BF | RF | B | T | BF | RF | B |
| <u>8</u> | <u>0</u> | <u>8</u> | <u>0</u> | <u>52</u> | <u>0</u> | <u>52</u> | <u>0</u> | <u>6.5</u> | <u>0</u> | <u>6.5</u> | <u>0</u> | <u>1.76</u> | <u>0</u> | <u>1.76</u> | <u>0</u> |

VII. Abundance of Frigatebirds:

| No. Sightings | No. Birds | Birds/Sighting | Birds/Mile |
|---------------|-----------|----------------|-------------|
| <u>2</u> | <u>2</u> | <u>1.0</u> | <u>1.03</u> |

VIII. Abundance of Flocks:

| Total No. Flocks | Total No. Birds | Total No. F/Mi. | No. Feeding Flocks | No. Feeding Birds | No. Feeding F/Mi. |
|------------------|-----------------|-----------------|--------------------|-------------------|-------------------|
| <u>2</u> | <u>129</u> | <u>1.03</u> | <u>2</u> | <u>129</u> | <u>1.03</u> |

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3-4-64

SMITHSONIAN INSTITUTION

DIVISION OF BIRDS

AT SEA SURVEY CHART C

DATE 1 Dec 64

| TIME | LAT | LONG | PRES | WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|------|-----|-----|-----|-------|--------|-------|--------|---------|-------|----------|--------|--------|------------------|
| 0100 | | | | | | | | | | | | | | | | |
| 0200 | | | | | | | | | | | | | | | | |
| 0300 | | | | | | | | | | | | | | | | |
| 0400 | | | | | | | | | | | | | | | | |
| 0500 | | | | | | | | | | | | | | | | |
| 0600 | | | | | | | | | | | | | | | | |
| 0700 | | | | | | | | | | | | | | | | |
| 0800 | | | | | | | | | | | | | | | | |
| 0900 | | | | | | | | | | | | | | | | |
| 1000 | | | | | | | | | | | | | | | | |
| 1100 | | | | | | | | | | | | | | | | |
| 1200 | | | | | | | | | | | | | | | | |
| 1300 | 21 19 | 157 58 | | | | | | | | | | | | | | |
| 1400 | 21 17 | 157 54 | | | | | | | | | | | | | | |
| 1500 | 21 09 | 157 47 | | | | | | | | | | | | | | |
| 1600 | 21 01 | 157 39 | | | | | | | | | | | | | | |
| 1700 | 20 53 | 157 31 | | | | | | | | | | | | | | |
| 1800 | 20 43 | 157 21 | | | | | | | | | | | | | | |
| 1900 | 20 36 | 157 13 | | | | | | | | | | | | | | |
| 2000 | 20 26 | 157 13 | | | | | | | | | | | | | | |
| 2100 | 20 34 | 157 12 | | | | | | | | | | | | | | |
| 2200 | 20 23 | 157 08 | | | | | | | | | | | | | | |
| 2300 | 20 11 | 157 04 | | | | | | | | | | | | | | |
| 2400 | 19 59 | 157 00 | | | | | | | | | | | | | | |

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 2 Dec 64

| TIME | LAT | LONG | PRES | WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|------|-----|-----|--------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 19 47 | 157 00 | | | | | | | | | | | | | | |
| 0200 | 19 25 | 157 20 | 02 | | 10 | 1015.6 | 24.6 | 19 | | 2 | | | 25.3 | 17 | 110 | 5.12 |
| 0300 | 19 23 | 157 00 | | | | | | | | | | | | | | |
| 0400 | 19 11 | 156 59 | | | | | | | | | | | | | | |
| 0500 | 18 59 | 156 59 | | | | | | | | | | | | | | |
| 0600 | 18 59 | 156 59 | | | | | | | | | | | | | | |
| 0700 | 18 51 | 156 59 | | | | | | | | | | | | | | |
| 0800 | 18 29 | 157 00 | 02 | | 10 | 1015.6 | 25.2 | 21 | | 3 | | 120-120 | 25.1 | 16 | 80 | 5.12 |
| 0900 | 18 29 | 157 00 | | | | | | | | | | | | | | |
| 1000 | 18 17 | 156 59 | | | | | | | | | | | | | | |
| 1100 | 18 06 | 156 59 | | | | | | | | | | | | | | |
| 1200 | 17 58 | 156 59 | | | | | | | | | | | | | | |
| 1300 | 17 46 | 156 58 | | | | | | | | | | | | | | |
| 1400 | 17 26 | 156 58 | 01 | | 10 | 1014.0 | 25.0 | 20 | | 1 | | 120-120 | 25.2 | 16 | 80 | 5.12 |
| 1500 | 17 22 | 156 57 | | | | | | | | | | | | | | |
| 1600 | 17 26 | 156 55 | | | | | | | | | | | | | | |
| 1700 | 17 13 | 156 56 | | | | | | | | | | | | | | |
| 1800 | 17 04 | 156 59 | | | | | | | | | | | | | | |
| 1900 | 16 50 | 156 57 | | | | | | | | | | | | | | |
| 2000 | 16 42 | 156 58 | 02 | | 10 | 1014.3 | 24.5 | 21 | | 3 | | 20-120 | 25.2 | 19 | 80 | 5.12 |
| 2100 | 16 40 | 156 59 | | | | | | | | | | | | | | |
| 2200 | 16 29 | 156 59 | | | | | | | | | | | | | | |
| 2300 | 16 17 | 156 59 | | | | | | | | | | | | | | |
| 2400 | 16 05 | 156 59 | | | | | | | | | | | | | | |

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 3 Dec 64

| TIME | LAT | LONG | PRES WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|----------|-----|--------|-------|--------|-------|--------|---------|--------|----------|--------|--------|------------------|
| 0100 | 16 01 | 157 00 | | | | | | | | | | | | | |
| 0200 | 15 59 | 157 00 | 02 | 10 | 1012.4 | 24.6 | 20 | | 2 | | /// | 25.2 | 20 | 80 | S-12 |
| 0300 | 15 47 | 157 00 | | | | | | | | | | | | | |
| 0400 | 15 35 | 157 00 | | | | | | | | | | | | | |
| 0500 | 15 23 | 157 00 | | | | | | | | | | | | | |
| 0600 | 15 11 | 157 01 | | | | | | | | | | | | | |
| 0700 | 15 00 | 157 01 | | | | | | | | | | | | | |
| 0800 | 14 49 | 157 01 | 03 | 10 | 1012.4 | 25.0 | 21 | | 5 | | 70-5-7 | 25.4 | 21 | 60 | S-12 |
| 0900 | 14 38 | 157 00 | | | | | | | | | | | | | |
| 1000 | 14 26 | 157 00 | | | | | | | | | | | | | |
| 1100 | 14 14 | 157 00 | | | | | | | | | | | | | |
| 1200 | 14 02 | 157 00 | | | | | | | | | | | | | |
| 1300 | 14 06 | 157 00 | | | | | | | | | | | | | |
| 1400 | 13 54 | 157 00 | 02 | 10 | 1010.3 | 26.1 | 22 | | 4 | | 70-6-7 | 25.5 | 20 | 60 | S-12 |
| 1500 | 13 42 | 157 00 | | | | | | | | | | | | | |
| 1600 | 13 28 | 157 00 | | | | | | | | | | | | | |
| 1700 | 13 16 | 157 00 | | | | | | | | | | | | | |
| 1800 | 13 04 | 157 00 | | | | | | | | | | | | | |
| 1900 | 12 56 | 157 00 | | | | | | | | | | | | | |
| 2000 | 12 56 | 157 00 | 03 | 10 | 1009.8 | 26.2 | 22 | | 6 | | /// | 26.2 | 18 | 80 | S-12 |
| 2100 | 12 49 | 157 00 | | | | | | | | | | | | | |
| 2200 | 12 37 | 157 00 | | | | | | | | | | | | | |
| 2300 | 12 24 | 157 00 | | | | | | | | | | | | | |
| 2400 | 12 12 | 157 00 | | | | | | | | | | | | | |

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3-4-64

SMITHSONIAN INSTITUTION

DIVISION OF BIRDS

AT SEA SURVEY CHART C

DATE

4 Dec 64

| TIME | LAT | LONG | PRES | WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|------|-----|-----|-------|-------|--------|-------|--------|---------|--------|----------|--------|--------|------------------|
| 0100 | 12 01 | 151 59 | | | | | | | | | | | | | | |
| 0200 | 11 49 | 152 59 | 01 | | 10 | 10116 | 25.8 | 22 | | 2 | | 80-6-5 | 26.7 | 17 | 20 | S-12 |
| 0300 | 11 37 | 156 59 | | | | | | | | | | | | | | |
| 0400 | 11 29 | 156 59 | | | | | | | | | | | | | | |
| 0500 | 11 28 | 156 57 | | | | | | | | | | | | | | |
| 0600 | 11 23 | 156 46 | | | | | | | | | | | | | | |
| 0700 | 11 18 | 156 35 | | | | | | | | | | | | | | |
| 0800 | 11 13 | 156 24 | 00 | | 10 | 10113 | 25.9 | 23 | | 4 | | 80-6-4 | 26.0 | 18 | 90 | S-12 |
| 0900 | 11 08 | 156 13 | | | | | | | | | | | | | | |
| 1000 | 11 03 | 156 03 | | | | | | | | | | | | | | |
| 1100 | 10 58 | 155 52 | | | | | | | | | | | | | | |
| 1200 | 10 53 | 155 42 | | | | | | | | | | | | | | |
| 1300 | 10 48 | 155 32 | | | | | | | | | | | | | | |
| 1400 | 10 43 | 155 23 | 03 | | 10 | 10092 | 26.2 | 22 | | 7 | | 80-6-4 | 26.2 | 15 | 70 | SE-12 |
| 1500 | 10 38 | 155 14 | | | | | | | | | | | | | | |
| 1600 | 10 33 | 155 04 | | | | | | | | | | | | | | |
| 1700 | 10 28 | 154 55 | | | | | | | | | | | | | | |
| 1800 | 10 23 | 154 45 | | | | | | | | | | | | | | |
| 1900 | 10 18 | 154 36 | | | | | | | | | | | | | | |
| 2000 | 10 13 | 154 26 | 53 | | 10 | 10111 | 25.4 | 22 | | 8 | | 80-6-5 | 26.3 | 16 | 70 | SE-12 |
| 2100 | 10 10 | 154 21 | | | | | | | | | | | | | | |
| 2200 | 10 05 | 154 11 | | | | | | | | | | | | | | |
| 2300 | 10 00 | 154 01 | | | | | | | | | | | | | | |
| 2400 | 10 00 | 154 00 | | | | | | | | | | | | | | |

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3-4-64

SMITHSONIAN INSTITUTION

DIVISION OF BIRDS

AT SEA SURVEY CHART C

DATE 5 Dec 64

| TIME | LAT | LONG | PRES | WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|------|-----|-----|--------|-------|--------|-------|--------|---------|--------|----------|--------|--------|------------------|
| 0100 | 10 07 | 154 00 | | | | | | | | | | | | | | |
| 0200 | 10 19 | 154 00 | 51 | | 5 | 1010.1 | 25.9 | 23 | | 8 | | 80-6-5 | 26.7 | 20 | 70 | SE-12 |
| 0300 | 10 31 | 154 00 | | | | | | | | | | | | | | |
| 0400 | 10 42 | 154 00 | | | | | | | | | | | | | | |
| 0500 | 10 53 | 154 01 | | | | | | | | | | | | | | |
| 0600 | 11 04 | 154 01 | | | | | | | | | | | | | | |
| 0700 | 11 16 | 154 00 | | | | | | | | | | | | | | |
| 0800 | 11 29 | 153 59 | 01 | | 10 | 1013.2 | 25.4 | 22 | | 3 | | 70-5-4 | 26.5 | 19 | 70 | N-12 |
| 0900 | 11 31 | 153 59 | | | | | | | | | | | | | | |
| 1000 | 11 31 | 153 59 | | | | | | | | | | | | | | |
| 1100 | 11 31 | 153 59 | | | | | | | | | | | | | | |
| 1200 | 11 43 | 153 59 | | | | | | | | | | | | | | |
| 1300 | 11 55 | 153 59 | | | | | | | | | | | | | | |
| 1400 | 12 07 | 153 59 | 02 | | 10 | 1011.9 | 25.7 | 21 | | 3 | | 70-5-4 | 26.2 | 14 | 60 | N-12 |
| 1500 | 12 19 | 154 00 | | | | | | | | | | | | | | |
| 1600 | 12 30 | 154 00 | | | | | | | | | | | | | | |
| 1700 | 12 42 | 154 00 | | | | | | | | | | | | | | |
| 1800 | 12 53 | 154 00 | | | | | | | | | | | | | | |
| 1900 | 13 00 | 154 00 | | | | | | | | | | | | | | |
| 2000 | 13 00 | 154 00 | 02 | | 10 | 1013.6 | 25.9 | 22 | | 3 | | 70-5-4 | 25.3 | 18 | 60 | N-12 |
| 2100 | 13 07 | 154 00 | | | | | | | | | | | | | | |
| 2200 | 13 19 | 154 00 | | | | | | | | | | | | | | |
| 2300 | 13 31 | 154 00 | | | | | | | | | | | | | | |
| 2400 | 13 31 | 154 00 | | | | | | | | | | | | | | |

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SI-MNH-955c
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 6 Dec 64

| TIME | LAT | LONG | PRES WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|----------|-----|--------|-------|--------|-------|--------|---------|--------|----------|--------|--------|------------------|
| 0100 | 13 31 | 154 00 | | | | | | | | | | | | | |
| 0200 | 13 42 | 154 00 | 02 | 10 | 1012.0 | 25.0 | 22 | | 2 | | 70-6-5 | 25.7 | 20 | 70 | N-12 |
| 0300 | 13 53 | 154 00 | | | | | | | | | | | | | |
| 0400 | 14 05 | 154 00 | | | | | | | | | | | | | |
| 0500 | 14 17 | 154 01 | | | | | | | | | | | | | |
| 0600 | 14 28 | 154 01 | | | | | | | | | | | | | |
| 0700 | 14 39 | 154 01 | | | | | | | | | | | | | |
| 0800 | 14 29 | 154 01 | 14 | 10 | 1013.4 | 25.1 | 21 | | 6 | | 70-5-5 | 25.8 | 19 | 70 | N-12 |
| 0900 | 14 37 | 154 01 | | | | | | | | | | | | | |
| 1000 | 14 48 | 154 01 | | | | | | | | | | | | | |
| 1100 | 14 59 | 154 01 | | | | | | | | | | | | | |
| 1200 | 15 11 | 154 01 | | | | | | | | | | | | | |
| 1300 | 15 22 | 154 01 | | | | | | | | | | | | | |
| 1400 | 15 33 | 154 00 | 01 | 10 | 1013.2 | 26.9 | 21 | | 2 | | 30-5-5 | 25.2 | 17 | 60 | N-12 |
| 1500 | 15 44 | 153 59 | | | | | | | | | | | | | |
| 1600 | 15 55 | 153 58 | | | | | | | | | | | | | |
| 1700 | 15 57 | 153 58 | | | | | | | | | | | | | |
| 1800 | 16 05 | 153 58 | | | | | | | | | | | | | |
| 1900 | 16 16 | 153 58 | | | | | | | | | | | | | |
| 2000 | 16 27 | 153 58 | 02 | 10 | 1015.6 | 25.0 | 21 | | 1 | | 30-5-5 | 25.2 | 20 | 50 | N-12 |
| 2100 | 16 31 | 153 58 | | | | | | | | | | | | | |
| 2200 | 16 42 | 153 57 | | | | | | | | | | | | | |
| 2300 | 16 54 | 153 57 | | | | | | | | | | | | | |
| 2400 | 17 05 | 153 57 | | | | | | | | | | | | | |

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955c
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 7 Dec 64

| TIME | LAT | LONG | PRES WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|----------|-----|--------|-------|--------|-------|--------|---------|--------|----------|--------|--------|------------------|
| 0100 | 17 16 | 153 57 | | | | | | | | | | | | | |
| 0200 | 17 27 | 153 57 | 02 | 10 | 1015.3 | 24.4 | 21 | | 1 | | 30-5-5 | 25.1 | 23 | 80 | N-12 |
| 0300 | 17 29 | 153 58 | | | | | | | | | | | | | |
| 0400 | 17 36 | 153 58 | | | | | | | | | | | | | |
| 0500 | 17 47 | 153 58 | | | | | | | | | | | | | |
| 0600 | 17 58 | 153 58 | | | | | | | | | | | | | |
| 0700 | 18 09 | 153 58 | | | | | | | | | | | | | |
| 0800 | 18 20 | 153 59 | 02 | 10 | 1015.6 | 23.2 | 20 | | 2 | | 40-6-7 | 25.0 | 22 | 70 | N-12 |
| 0900 | 18 31 | 153 59 | | | | | | | | | | | | | |
| 1000 | 18 42 | 153 59 | | | | | | | | | | | | | |
| 1100 | 18 54 | 154 00 | | | | | | | | | | | | | |
| 1200 | 18 59 | 154 00 | | | | | | | | | | | | | |
| 1300 | 19 05 | 154 00 | | | | | | | | | | | | | |
| 1400 | 19 17 | 154 00 | 15 | 10 | 1015.8 | 24.0 | 21 | | 6 | | 70-6-5 | 24.8 | 20 | 70 | N-12 |
| 1500 | 19 29 | 153 59 | | | | | | | | | | | | | |
| 1600 | 19 40 | 153 59 | | | | | | | | | | | | | |
| 1700 | 19 52 | 153 58 | | | | | | | | | | | | | |
| 1800 | 20 04 | 153 58 | | | | | | | | | | | | | |
| 1900 | 20 16 | 153 58 | | | | | | | | | | | | | |
| 2000 | 20 28 | 153 57 | 15 | 5 | 1017.6 | 25.0 | 21 | | 5 | | 70-6-5 | 24.7 | 15 | 70 | N-12 |
| 2100 | 20 30 | 153 57 | | | | | | | | | | | | | |
| 2200 | 20 30 | 153 57 | | | | | | | | | | | | | |
| 2300 | 20 43 | 153 57 | | | | | | | | | | | | | |
| 2400 | 20 55 | 153 57 | | | | | | | | | | | | | |

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955c

3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE

8 Dec 64

| TIME | LAT | LONG | PRES WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|----------|-----|--------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 21 07 | 153 57 | | | | | | | | | | | | | |
| 0200 | 21 19 | 153 57 | 02 | 10 | 1016.3 | 24.1 | 20 | | 5 | | 90-6-7 | 25.1 | 21 | 100 | N-12 |
| 0300 | 21 31 | 153 56 | | | | | | | | | | | | | |
| 0400 | 21 44 | 153 56 | | | | | | | | | | | | | |
| 0500 | 21 57 | 153 56 | | | | | | | | | | | | | |
| 0600 | 22 01 | 153 56 | | | | | | | | | | | | | |
| 0700 | 22 07 | 153 56 | | | | | | | | | | | | | |
| 0800 | 22 20 | 153 56 | 02 | 5 | 1017.7 | 23.2 | 21 | | 7 | | 80-6-7 | 24.6 | 23 | 100 | N-12 |
| 0900 | 22 32 | 153 55 | | | | | | | | | | | | | |
| 1000 | 22 44 | 153 55 | | | | | | | | | | | | | |
| 1100 | 22 56 | 153 55 | | | | | | | | | | | | | |
| 1200 | 23 07 | 153 56 | | | | | | | | | | | | | |
| 1300 | 23 18 | 153 56 | | | | | | | | | | | | | |
| 1400 | 23 28 | 153 56 | 02 | 10 | 1016.7 | 24.1 | 23 | | 1 | | 80-6-10 | 24.0 | 19 | 110 | N-12 |
| 1500 | 23 28 | 153 56 | | | | | | | | | | | | | |
| 1600 | 23 27 | 153 46 | | | | | | | | | | | | | |
| 1700 | 23 25 | 153 25 | | | | | | | | | | | | | |
| 1800 | 23 24 | 153 24 | | | | | | | | | | | | | |
| 1900 | 23 24 | 153 12 | | | | | | | | | | | | | |
| 2000 | 23 25 | 152 59 | 02 | 10 | 1018.2 | 23.9 | 20 | | 2 | | 90-6-8 | 24.1 | 16 | 100 | E-12 |
| 2100 | 23 25 | 152 55 | | | | | | | | | | | | | |
| 2200 | 23 26 | 152 43 | | | | | | | | | | | | | |
| 2300 | 23 27 | 152 31 | | | | | | | | | | | | | |
| 2400 | 23 27 | 152 19 | | | | | | | | | | | | | |

REMARKS:

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SI-MNH-955c

3-4-64

SMITHSONIAN INSTITUTION

DIVISION OF BIRDS

AT SEA SURVEY CHART C

DATE

9 Dec 64

| TIME | LAT | LONG | PRES | WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|------|-----|-----|--------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 23 29 | 152 06 | | | | | | | | | | | | | | |
| 0200 | 23 30 | 151 54 | 03 | | 10 | 1017.6 | 23.6 | 20 | | 7 | | 90-6-8 | 23.7 | 17 | 110 | E-12 |
| 0300 | 23 30 | 151 42 | | | | | | | | | | | | | | |
| 0400 | 23 31 | 151 30 | | | | | | | | | | | | | | |
| 0500 | 23 32 | 151 18 | | | | | | | | | | | | | | |
| 0600 | 23 34 | 151 05 | | | | | | | | | | | | | | |
| 0700 | 23 33 | 151 00 | | | | | | | | | | | | | | |
| 0800 | 23 30 | 151 00 | 03 | | 10 | 1018.7 | 23.5 | 20 | | 8 | | 90-6-7 | 23.9 | 18 | 100 | E-12 |
| 0900 | 23 20 | 150 54 | | | | | | | | | | | | | | |
| 1000 | 23 09 | 150 58 | | | | | | | | | | | | | | |
| 1100 | 22 59 | 150 56 | | | | | | | | | | | | | | |
| 1200 | 22 49 | 150 55 | | | | | | | | | | | | | | |
| 1300 | 22 37 | 150 57 | | | | | | | | | | | | | | |
| 1400 | 22 26 | 150 58 | 53 | | 5 | 1015.6 | 24.1 | 22 | | 8 | | 100-8-7 | 23.5 | 13 | 110 | S-12 |
| 1500 | 22 15 | 151 00 | | | | | | | | | | | | | | |
| 1600 | 22 04 | 151 00 | | | | | | | | | | | | | | |
| 1700 | 22 00 | 151 01 | | | | | | | | | | | | | | |
| 1800 | 21 56 | 151 01 | | | | | | | | | | | | | | |
| 1900 | 21 46 | 151 01 | | | | | | | | | | | | | | |
| 2000 | 21 35 | 151 03 | 53 | | 5 | 1016.6 | 24.1 | 22 | | 8 | | 100-8-7 | 24.0 | 15 | 110 | S-12 |
| 2100 | 21 29 | 151 03 | | | | | | | | | | | | | | |
| 2200 | 21 19 | 151 03 | | | | | | | | | | | | | | |
| 2300 | 21 09 | 151 04 | | | | | | | | | | | | | | |
| 2400 | 20 57 | 151 05 | | | | | | | | | | | | | | |

REMARKS:

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SI-MNH-955c
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 10 Feb 64

| TIME | LAT | LONG | PRES | WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|------|-----|-----|--------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 20 45 | 151 05 | | | | | | | | | | | | | | |
| 0200 | 20 34 | 151 06 | 01 | | 10 | 1015.6 | 24.0 | 22 | | 3 | | 100-8-7 | 24.3 | 13 | 120 | S-12 |
| 0300 | 20 30 | 151 06 | | | | | | | | | | | | | | |
| 0400 | 20 25 | 151 06 | | | | | | | | | | | | | | |
| 0500 | 20 13 | 151 06 | | | | | | | | | | | | | | |
| 0600 | 20 01 | 151 07 | | | | | | | | | | | | | | |
| 0700 | 19 50 | 151 07 | | | | | | | | | | | | | | |
| 0800 | 19 39 | 151 06 | 02 | | 10 | 1016.0 | 24.2 | 21 | | 7 | | 110-7-5 | 24.4 | 10 | 110 | S-12 |
| 0900 | 19 28 | 151 06 | | | | | | | | | | | | | | |
| 1000 | 19 17 | 151 06 | | | | | | | | | | | | | | |
| 1100 | 19 06 | 151 03 | | | | | | | | | | | | | | |
| 1200 | 19 01 | 151 00 | | | | | | | | | | | | | | |
| 1300 | 18 56 | 151 00 | | | | | | | | | | | | | | |
| 1400 | 18 44 | 150 59 | 01 | | 10 | 1014.0 | 24.9 | 21 | | 2 | | 110-7-5 | 24.6 | 13 | 110 | S-12 |
| 1500 | 18 32 | 150 58 | | | | | | | | | | | | | | |
| 1600 | 18 20 | 150 58 | | | | | | | | | | | | | | |
| 1700 | 18 08 | 150 57 | | | | | | | | | | | | | | |
| 1800 | 17 57 | 150 57 | | | | | | | | | | | | | | |
| 1900 | 17 45 | 150 58 | | | | | | | | | | | | | | |
| 2000 | 17 33 | 150 58 | 02 | | 10 | 1015.4 | 24.4 | 21 | | 1 | | 100-7-4 | 24.4 | 11 | 90 | S-12 |
| 2100 | 17 30 | 150 58 | | | | | | | | | | | | | | |
| 2200 | 17 30 | 150 58 | | | | | | | | | | | | | | |
| 2300 | 17 30 | 150 58 | | | | | | | | | | | | | | |
| 2400 | 17 21 | 150 58 | | | | | | | | | | | | | | |

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SI-MNH-955c
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 11 Dec 64

| TIME | LAT | LONG | PRES | WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|------|-----|-----|--------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 17 08 | 150 54 | | | | | | | | | | | | | | |
| 0200 | 16 56 | 150 52 | 02 | | 10 | 1014.5 | 24.5 | 21 | | 1 | | 100-7-4 | 24.1 | 09 | 80 | S-12 |
| 0300 | 16 44 | 150 50 | | | | | | | | | | | | | | |
| 0400 | 16 32 | 150 48 | | | | | | | | | | | | | | |
| 0500 | 16 20 | 150 47 | | | | | | | | | | | | | | |
| 0600 | 16 08 | 150 47 | | | | | | | | | | | | | | |
| 0700 | 15 57 | 150 47 | | | | | | | | | | | | | | |
| 0800 | 15 57 | 150 47 | 03 | | 10 | 1014.7 | 24.8 | 21 | | 7 | | 100-7-4 | 25.2 | 10 | 70 | S-12 |
| 0900 | 15 45 | 150 47 | | | | | | | | | | | | | | |
| 1000 | 15 32 | 150 47 | | | | | | | | | | | | | | |
| 1100 | 15 22 | 150 47 | | | | | | | | | | | | | | |
| 1200 | 15 11 | 150 47 | | | | | | | | | | | | | | |
| 1300 | 15 00 | 150 47 | | | | | | | | | | | | | | |
| 1400 | 14 48 | 151 00 | 01 | | 10 | 1017.2 | 25.4 | 21 | | 3 | | 90-8-7 | 25.7 | 16 | 70 | S-12 |
| 1500 | 14 36 | 151 00 | | | | | | | | | | | | | | |
| 1600 | 14 24 | 151 00 | | | | | | | | | | | | | | |
| 1700 | 14 26 | 151 00 | | | | | | | | | | | | | | |
| 1800 | 14 16 | 151 01 | | | | | | | | | | | | | | |
| 1900 | 14 05 | 151 01 | | | | | | | | | | | | | | |
| 2000 | 13 54 | 151 02 | 01 | | 10 | 1012.0 | 25.2 | 21 | | 0 | | 100-8-7 | 25.4 | 18 | 50 | S-12 |
| 2100 | 13 49 | 151 01 | | | | | | | | | | | | | | |
| 2200 | 13 38 | 151 00 | | | | | | | | | | | | | | |
| 2300 | 13 27 | 151 00 | | | | | | | | | | | | | | |
| 2400 | 13 16 | 151 00 | | | | | | | | | | | | | | |

REMARKS:

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SI-MNH-955c
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 12 Dec 64

| TIME | LAT | LONG | PRES | WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|------|-----|-----|--------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 12 03 | 151 00 | | | | | | | | | | | | | | |
| 0200 | 12 00 | 151 00 | 02 | | 10 | 1011.0 | 24.2 | 22 | | 2 | | 100-8-7 | 25.4 | 14 | 80 | S-12 |
| 0300 | 12 58 | 151 00 | | | | | | | | | | | | | | |
| 0400 | 12 47 | 151 00 | | | | | | | | | | | | | | |
| 0500 | 12 38 | 151 00 | | | | | | | | | | | | | | |
| 0600 | 12 35 | 151 00 | | | | | | | | | | | | | | |
| 0700 | 12 14 | 151 01 | | | | | | | | | | | | | | |
| 0800 | 12 02 | 151 02 | 02 | | 10 | 1011.6 | 25.9 | 22 | | 3 | | 100-7-5 | 25.4 | 18 | 70 | S-12 |
| 0900 | 12 54 | 151 02 | | | | | | | | | | | | | | |
| 1000 | 11 51 | 151 02 | | | | | | | | | | | | | | |
| 1100 | 11 40 | 151 02 | | | | | | | | | | | | | | |
| 1200 | 11 31 | 150 59 | | | | | | | | | | | | | | |
| 1300 | 11 31 | 150 59 | | | | | | | | | | | | | | |
| 1400 | 11 21 | 150 59 | 03 | | 10 | 1009.6 | 26.4 | 23 | | 2 | | 90-8-5 | 25.4 | 18 | 70 | S-12 |
| 1500 | 11 25 | 150 59 | | | | | | | | | | | | | | |
| 1600 | 11 20 | 150 41 | | | | | | | | | | | | | | |
| 1700 | 11 13 | 150 33 | | | | | | | | | | | | | | |
| 1800 | 11 29 | 150 29 | | | | | | | | | | | | | | |
| 1900 | 11 04 | 150 16 | | | | | | | | | | | | | | |
| 2000 | 10 58 | 150 08 | 02 | | 10 | 1010.7 | 25.2 | 23 | | 8 | | 80-8-5 | 25.5 | 15 | 60 | SE-12 |
| 2100 | 10 51 | 149 04 | | | | | | | | | | | | | | |
| 2200 | 10 52 | 149 53 | | | | | | | | | | | | | | |
| 2300 | 10 48 | 149 44 | | | | | | | | | | | | | | |
| 2400 | 10 44 | 149 35 | | | | | | | | | | | | | | |

REMARKS:

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SI-MNH-955c
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 13 Dec 64

| TIME | LAT | LONG | PRES | WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|------|-----|-----|--------|-------|--------|-------|--------|---------|--------|----------|--------|--------|------------------|
| 0100 | 10 40 | 149 26 | | | | | | | | | | | | | | |
| 0200 | 10 26 | 149 17 | 02 | | 10 | 1009.4 | 25.1 | 23 | | 9 | | 50-8.5 | 25.5 | 20 | 70 | S-3-12 |
| 0300 | 10 32 | 149 08 | | | | | | | | | | | | | | |
| 0400 | 10 29 | 149 00 | | | | | | | | | | | | | | |
| 0500 | 10 26 | 148 52 | | | | | | | | | | | | | | |
| 0600 | 10 23 | 148 44 | | | | | | | | | | | | | | |
| 0700 | 10 20 | 148 36 | | | | | | | | | | | | | | |
| 0800 | 10 16 | 148 27 | 02 | | 10 | 1011.5 | 25.0 | 22 | | 7 | | 90-7 | 25.5 | 18 | 100 | S-3-9 |
| 0900 | 10 12 | 148 18 | | | | | | | | | | | | | | |
| 1000 | 10 08 | 148 09 | | | | | | | | | | | | | | |
| 1100 | 10 04 | 148 00 | | | | | | | | | | | | | | |
| 1200 | 10 04 | 147 52 | | | | | | | | | | | | | | |
| 1300 | 10 12 | 147 52 | | | | | | | | | | | | | | |
| 1400 | 10 24 | 147 52 | 02 | | 10 | 1009.2 | 26.0 | 23 | | 7 | | 80-6.7 | 25.5 | 24 | 80 | N-11 |
| 1500 | 10 36 | 147 59 | | | | | | | | | | | | | | |
| 1600 | 10 42 | 148 00 | | | | | | | | | | | | | | |
| 1700 | 11 00 | 148 01 | | | | | | | | | | | | | | |
| 1800 | 11 12 | 148 02 | | | | | | | | | | | | | | |
| 1900 | 11 24 | 148 02 | | | | | | | | | | | | | | |
| 2000 | 11 32 | 148 01 | 02 | | 10 | 1012.1 | 26.2 | 23 | | 6 | | 80-6.7 | 25.6 | 22 | 70 | N-12 |
| 2100 | 11 32 | 148 01 | | | | | | | | | | | | | | |
| 2200 | 11 39 | 148 01 | | | | | | | | | | | | | | |
| 2300 | 12 51 | 148 01 | | | | | | | | | | | | | | |
| 2400 | 12 03 | 148 00 | | | | | | | | | | | | | | |

REMARKS:

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SI-MNH-955c
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 14 Dec 64

| TIME | LAT | LONG | PRES WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|----------|-----|--------|-------|--------|-------|--------|---------|--------|----------|--------|--------|------------------|
| 0100 | 12 15 | 148 00 | | | | | | | | | | | | | |
| 0200 | 12 27 | 147 59 | 03 | 10 | 1011.7 | 25.0 | 22 | | 3 | | 80-6-7 | 25.5 | 21 | 70 | N-12 |
| 0300 | 12 39 | 147 59 | | | | | | | | | | | | | |
| 0400 | 12 51 | 147 58 | | | | | | | | | | | | | |
| 0500 | 12 59 | 147 58 | | | | | | | | | | | | | |
| 0600 | 13 01 | 147 58 | | | | | | | | | | | | | |
| 0700 | 13 13 | 147 58 | | | | | | | | | | | | | |
| 0800 | 13 25 | 147 59 | 02 | 10 | 1013.9 | 25.0 | 21 | | 4 | | 50-6-7 | 25.2 | 24 | 70 | N-12 |
| 0900 | 13 36 | 147 59 | | | | | | | | | | | | | |
| 1000 | 13 48 | 147 59 | | | | | | | | | | | | | |
| 1100 | 13 50 | 147 59 | | | | | | | | | | | | | |
| 1200 | 14 11 | 147 59 | | | | | | | | | | | | | |
| 1300 | 14 23 | 147 59 | | | | | | | | | | | | | |
| 1400 | 14 30 | 147 59 | 02 | 10 | 1012.6 | 26.7 | 21 | | 2 | | 70-6-7 | 25.1 | 21 | 70 | N-12 |
| 1500 | 14 37 | 147 59 | | | | | | | | | | | | | |
| 1600 | 14 45 | 147 58 | | | | | | | | | | | | | |
| 1700 | 14 55 | 147 58 | | | | | | | | | | | | | |
| 1800 | 15 03 | 147 58 | | | | | | | | | | | | | |
| 1900 | 15 19 | 147 58 | | | | | | | | | | | | | |
| 2000 | 15 30 | 147 58 | 03 | 10 | 1014.0 | 25.0 | 20 | | 6 | | 80-6-5 | 25.1 | 18 | 80 | N-12 |
| 2100 | 15 35 | 147 59 | | | | | | | | | | | | | |
| 2200 | 15 48 | 147 59 | | | | | | | | | | | | | |
| 2300 | 16 00 | 147 59 | | | | | | | | | | | | | |
| 2400 | 16 00 | 147 59 | | | | | | | | | | | | | |

REMARKS:

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SI-MNH-955c

3-4-64

SMITHSONIAN INSTITUTION
 DIVISION OF BIRDS
 AT SEA SURVEY CHART C

DATE 15 Dec 64

| TIME | LAT | LONG | PRES WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|----------|-----|--------|-------|--------|-------|--------|---------|--------|----------|--------|--------|------------------|
| 0100 | 16 11 | 147 59 | | | | | | | | | | | | | |
| 0200 | 16 24 | 147 59 | 00 | 10 | 1012.6 | 24.4 | 21 | | 7 | | 80-6-5 | 25.4 | 22 | 80 | N-12 |
| 0300 | 16 38 | 147 59 | | | | | | | | | | | | | |
| 0400 | 16 48 | 148 00 | | | | | | | | | | | | | |
| 0500 | 17 00 | 148 00 | | | | | | | | | | | | | |
| 0600 | 17 12 | 148 00 | | | | | | | | | | | | | |
| 0700 | 17 24 | 147 59 | | | | | | | | | | | | | |
| 0800 | 17 30 | 147 59 | 03 | 10 | 1015.0 | 24.0 | 20 | | 8 | | 80-6-5 | 24.8 | 22 | 80 | N-12 |
| 0900 | 17 36 | 147 57 | | | | | | | | | | | | | |
| 1000 | 17 48 | 147 58 | | | | | | | | | | | | | |
| 1100 | 18 02 | 147 58 | | | | | | | | | | | | | |
| 1200 | 18 16 | 147 58 | | | | | | | | | | | | | |
| 1300 | 18 28 | 147 57 | | | | | | | | | | | | | |
| 1400 | 18 39 | 147 58 | 02 | 10 | 1017.6 | 23.9 | 20 | | 5 | | 80-6-7 | 24.4 | 22 | 80 | N-12 |
| 1500 | 18 50 | 147 59 | | | | | | | | | | | | | |
| 1600 | 18 55 | 147 56 | | | | | | | | | | | | | |
| 1700 | 19 01 | 147 56 | | | | | | | | | | | | | |
| 1800 | 19 12 | 147 55 | | | | | | | | | | | | | |
| 1900 | 19 25 | 147 56 | | | | | | | | | | | | | |
| 2000 | 19 36 | 147 56 | 03 | 10 | 1015.6 | 24.2 | 18 | | 2 | | 80-6-7 | 24.2 | 17 | 80 | N-12 |
| 2100 | 19 42 | 147 56 | | | | | | | | | | | | | |
| 2200 | 19 54 | 147 56 | | | | | | | | | | | | | |
| 2300 | 20 08 | 147 57 | | | | | | | | | | | | | |
| 2400 | 20 18 | 147 57 | | | | | | | | | | | | | |

REMARKS:

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SI-MNH-955c
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 16 Dec 64

| TIME | LAT | LONG | PRES | WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|------|-----|-----|--------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 20 30 | 147 58 | | | | | | | | | | | | | | |
| 0200 | 20 30 | 147 58 | 01 | | 10 | 1015.6 | 23.0 | 18 | | 4 | | 80-6-5 | 24.1 | 17 | 80 | N-12 |
| 0300 | 20 30 | 147 58 | | | | | | | | | | | | | | |
| 0400 | 20 30 | 147 58 | | | | | | | | | | | | | | |
| 0500 | 21 20 | 147 58 | | | | | | | | | | | | | | |
| 0600 | 21 22 | 147 58 | | | | | | | | | | | | | | |
| 0700 | 21 22 | 147 58 | | | | | | | | | | | | | | |
| 0800 | 21 26 | 147 58 | 03 | | 10 | 1015.0 | 23.1 | 18 | | 7 | | 100-6-7 | 24.2 | 22 | 110 | N-12 |
| 0900 | 21 27 | 147 58 | | | | | | | | | | | | | | |
| 1000 | 22 02 | 147 58 | | | | | | | | | | | | | | |
| 1100 | 22 03 | 147 58 | | | | | | | | | | | | | | |
| 1200 | 22 24 | 147 58 | | | | | | | | | | | | | | |
| 1300 | 22 27 | 147 58 | | | | | | | | | | | | | | |
| 1400 | 22 39 | 147 58 | 01 | | 10 | 1014.2 | 22.2 | 18 | | 8 | | 80-6-5 | 23.6 | 18 | 110 | N-12 |
| 1500 | 22 51 | 147 58 | | | | | | | | | | | | | | |
| 1600 | 23 02 | 147 58 | | | | | | | | | | | | | | |
| 1700 | 23 15 | 147 58 | | | | | | | | | | | | | | |
| 1800 | 23 26 | 147 58 | | | | | | | | | | | | | | |
| 1900 | 23 30 | 147 58 | | | | | | | | | | | | | | |
| 2000 | 23 32 | 147 56 | 03 | | 10 | 1016.0 | 22.6 | 16 | | 6 | | 100-6-4 | 23.0 | 10 | 110 | N-12 |
| 2100 | 23 42 | 147 56 | | | | | | | | | | | | | | |
| 2200 | 23 55 | 147 57 | | | | | | | | | | | | | | |
| 2300 | 24 07 | 147 57 | | | | | | | | | | | | | | |
| 2400 | 24 19 | 147 57 | | | | | | | | | | | | | | |

REMARKS:

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SI-MNH-955c
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 17 Dec 64

| TIME | LAT | LONG | PRES | WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|---------|------|-----|-----|--------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 24 31 | 147 52 | | | | | | | | | | | | | | |
| 0200 | 24 42 | 147 52 | 02 | | 10 | 1014.8 | 61.8 | 17 | | 7 | | 80-6-4 | 23.1 | 15 | 110 | N-12 |
| 0300 | 24 55 | 147 52 | | | | | | | | | | | | | | |
| 0400 | 25 02 | 147 52 | | | | | | | | | | | | | | |
| 0500 | 25 05 | 147 52 | | | | | | | | | | | | | | |
| 0600 | 25 12 | 147 52 | | | | | | | | | | | | | | |
| 0700 | 25 20 | 148 00 | | | | | | | | | | | | | | |
| 0800 | 25 42 | 148 00 | 02 | | 10 | 1015.0 | 61.2 | 16 | | 6 | | 120-6-1 | 23.8 | 12 | 130 | N-12 |
| 0900 | 25 55 | 148 00 | | | | | | | | | | | | | | |
| 1000 | 26 08 | 148 00 | | | | | | | | | | | | | | |
| 1100 | 26 20 | 148 00 | | | | | | | | | | | | | | |
| 1200 | 26 28 | 148 00 | | | | | | | | | | | | | | |
| 1300 | 26 28 | 148 00 | | | | | | | | | | | | | | |
| 1400 | 26 24 | 148 02 | 00 | | 10 | 1013.5 | 63.2 | 17 | | 7 | | 840-6-4 | 23.0 | 17 | 150 | N-12 |
| 1500 | 26 17 | 148 20 | | | | | | | | | | | | | | |
| 1600 | 26 11 | 148 31 | | | | | | | | | | | | | | |
| 1700 | 26 04 | 148 43 | | | | | | | | | | | | | | |
| 1800 | 26 08 | 148 34 | | | | | | | | | | | | | | |
| 1900 | 25 52 | 148 06 | | | | | | | | | | | | | | |
| 2000 | 25 45 | 14 9 18 | 02 | | 10 | 1012.6 | 62.4 | 12 | | 7 | | 150-6-4 | 22.8 | 19 | 120 | SW-12 |
| 2100 | 25 42 | 14 9 24 | | | | | | | | | | | | | | |
| 2200 | 25 38 | 14 9 36 | | | | | | | | | | | | | | |
| 2300 | 25 33 | 14 9 49 | | | | | | | | | | | | | | |
| 2400 | 25 29 | 15 0 00 | | | | | | | | | | | | | | |

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SI-MNH-955c

3-4-64

SMITHSONIAN INSTITUTION

DIVISION OF BIRDS

AT SEA SURVEY CHART C

DATE

18 Dec 64

| TIME | LAT | LONG | PRES | WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|------|-----|-----|--------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 25 24 | 150 11 | | | | | | | | | | | | | | |
| 0200 | 25 20 | 150 27 | 14 | | 10 | 1011.2 | 20.9 | 18 | | 8 | | 180-6-5 | 22.5 | 18 | 190 | SW-12 |
| 0300 | 25 18 | 150 34 | | | | | | | | | | | | | | |
| 0400 | 25 11 | 150 46 | | | | | | | | | | | | | | |
| 0500 | 25 06 | 150 58 | | | | | | | | | | | | | | |
| 0600 | 25 04 | 151 06 | | | | | | | | | | | | | | |
| 0700 | 25 04 | 151 05 | | | | | | | | | | | | | | |
| 0800 | 25 04 | 151 07 | 01 | | 10 | 1011.8 | 27.0 | 20 | | 7 | | 160-6-5 | 23.5 | 17 | 240 | W-12 |
| 0900 | 25 04 | 151 20 | | | | | | | | | | | | | | |
| 1000 | 25 04 | 151 33 | | | | | | | | | | | | | | |
| 1100 | 25 04 | 151 46 | | | | | | | | | | | | | | |
| 1200 | 25 04 | 151 59 | | | | | | | | | | | | | | |
| 1300 | 25 03 | 152 12 | | | | | | | | | | | | | | |
| 1400 | 25 02 | 152 25 | 02 | | 10 | 1011.0 | 24.1 | 17 | | 1 | | 250-5-5 | 23.1 | 16 | 240 | W-12 |
| 1500 | 25 01 | 152 39 | | | | | | | | | | | | | | |
| 1600 | 25 00 | 152 53 | | | | | | | | | | | | | | |
| 1700 | 24 59 | 153 06 | | | | | | | | | | | | | | |
| 1800 | 24 58 | 153 19 | | | | | | | | | | | | | | |
| 1900 | 24 57 | 153 32 | | | | | | | | | | | | | | |
| 2000 | 24 57 | 153 45 | 01 | | 25 | 1011.8 | 22.8 | 19 | | 1 | | 25-2 | 22.5 | 10 | 190 | W-12 |
| 2100 | 24 57 | 153 51 | | | | | | | | | | | | | | |
| 2200 | 24 57 | 154 01 | | | | | | | | | | | | | | |
| 2300 | 24 57 | 154 01 | | | | | | | | | | | | | | |
| 2400 | 24 57 | 154 14 | | | | | | | | | | | | | | |

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SI-MNH-955c
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 19 Dec 64

| TIME | LAT | LONG | PRES WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|----------|-----|--------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 24 57 | 154 27 | | | | | | | | | | | | | |
| 0200 | 24 57 | 154 40 | 03 | 10 | 1009.2 | 22.2 | 21 | | 8 | | 200-5-2 | 22.0 | 17 | 160 | W-12 |
| 0300 | 24 58 | 154 54 | | | | | | | | | | | | | |
| 0400 | 24 58 | 155 07 | | | | | | | | | | | | | |
| 0500 | 24 57 | 155 20 | | | | | | | | | | | | | |
| 0600 | 24 57 | 155 33 | | | | | | | | | | | | | |
| 0700 | 24 57 | 155 47 | | | | | | | | | | | | | |
| 0800 | 24 57 | 156 01 | 63 | 5 | 1007.4 | 21.0 | 19 | | 8 | | 90-6-4 | 23.8 | 15 | 90 | W-12 |
| 0900 | 24 58 | 156 14 | | | | | | | | | | | | | |
| 1000 | 24 58 | 156 27 | | | | | | | | | | | | | |
| 1100 | 24 58 | 156 41 | | | | | | | | | | | | | |
| 1200 | 24 59 | 156 55 | | | | | | | | | | | | | |
| 1300 | 24 59 | 157 00 | | | | | | | | | | | | | |
| 1400 | 24 52 | 152 00 | 01 | 25 | 1006.0 | 22.5 | 19 | | 4 | | 110-8-2 | 23.2 | 08 | 270 | W-12 |
| 1500 | 24 41 | 157 00 | | | | | | | | | | | | | |
| 1600 | 24 30 | 157 00 | | | | | | | | | | | | | |
| 1700 | 24 19 | 157 00 | | | | | | | | | | | | | |
| 1800 | 24 09 | 157 00 | | | | | | | | | | | | | |
| 1900 | 23 58 | 157 00 | | | | | | | | | | | | | |
| 2000 | 23 47 | 157 00 | 60 | 10 | 1009.5 | 22.5 | 20 | | 8 | | 200-8-2 | 22.5 | 10 | 270 | S-12 |
| 2100 | 23 41 | 157 00 | | | | | | | | | | | | | |
| 2200 | 23 29 | 157 00 | | | | | | | | | | | | | |
| 2300 | 23 26 | 157 01 | | | | | | | | | | | | | |
| 2400 | 23 13 | 157 00 | | | | | | | | | | | | | |

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SI-MNH-955c
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 20 Dec 64

| TIME | LAT | LONG | PRES | WEA | VIS | SLP | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|--------|------|-----|-----|--------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 22 00 | 157 01 | | | | | | | | | | | | | | |
| 0200 | 22 49 | 157 01 | 01 | | 10 | 1010.0 | 23.2 | 20 | | 3 | | 20-8-3 | 23.5 | 12 | 240 | S-12 |
| 0300 | 22 37 | 157 01 | | | | | | | | | | | | | | |
| 0400 | 22 25 | 157 01 | | | | | | | | | | | | | | |
| 0500 | 22 14 | 157 01 | | | | | | | | | | | | | | |
| 0600 | 22 02 | 157 02 | | | | | | | | | | | | | | |
| 0700 | 22 50 | 157 02 | | | | | | | | | | | | | | |
| 0800 | 21 54 | 157 07 | 02 | | 10 | 1010.1 | 24.5 | 22 | | 2 | | 26-11-7 | 24.0 | 16 | 200 | SW-12 |
| 0900 | 21 45 | 157 15 | | | | | | | | | | | | | | |
| 1000 | 21 36 | 157 22 | | | | | | | | | | | | | | |
| 1100 | 21 27 | 157 29 | | | | | | | | | | | | | | |
| 1200 | 21 17 | 157 36 | | | | | | | | | | | | | | |
| 1300 | 21 17 | 157 44 | | | | | | | | | | | | | | |
| 1400 | 21 17 | 157 50 | | | | | | | | | | | | | | |
| 1500 | | | | | | | | | | | | | | | | |
| 1600 | | | | | | | | | | | | | | | | |
| 1700 | | | | | | | | | | | | | | | | |
| 1800 | | | | | | | | | | | | | | | | |
| 1900 | | | | | | | | | | | | | | | | |
| 2000 | | | | | | | | | | | | | | | | |
| 2100 | | | | | | | | | | | | | | | | |
| 2200 | | | | | | | | | | | | | | | | |
| 2300 | | | | | | | | | | | | | | | | |
| 2400 | | | | | | | | | | | | | | | | |

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